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Environment
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92-01649/

ISBN 0-7729-7496-9 (2 v. set)
0-7729-7497-5 (v. 1)

CHLORINATED AND NONCHLORINATED ORGANICS STORAGE STUDIES

R. A. C. PROJECT NO. 412C
FINAL REPORT

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SEPTEMBER 1990

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ABSTRACT

The widespread implementation of programs to monitor and control trace organic contaminants has brought with it a need to refine sampling, storage and analysis protocols. Of key concern is the stability of the compounds of interest in various sample types during transport and storage prior to analysis. This information would be of value, both in developing valid sampling and analysis procedures and in planning monitoring programs. The objective of this study was to compile information from existing sources regarding the stability of a variety of sample matrix/organic compound class combinations to recommend optimum sample storage conditions where possible, and to evaluate the completeness of the information available.

Sample matrices studied were air-cartridge (AIR-C), air-sorbent traps (AIR-S), air-filters (AIR-F), biota (BIO), drinking/surface water (DW), sediment (SED), vegetation (VEG), and waste waters (WW). Organic compound classes studied were acid extractable-phenolic (AE), base neutral extractable compounds (BN), carbamate pesticides (CP), chlorinated dibenzo-p-dioxins and dibenzofurans (DX), neutral chlorinated extractable (OC), organophosphorus pesticides (OP), acid extractable-phenoxy acid herbicides (PA), phenyl urea pesticides (PP), resin and fatty acids (RA), triazine herbicides (TR), volatile organics-halogenated (VH), volatile organics-non halogenated (VN), and volatile organics-sulphur compounds (VS). A listing of the compounds for each class is given in Appendix F.

Data was obtained from published stability studies. In some cases, information was extracted from other works which included sample stability aspects as a minor part. Unpublished sources of data were identified but very little of this information could be obtained.

Data obtained in the course of this study were compiled into a relational database. Storage recommendations were made after statistical analysis of this data. From Table 1, it can be seen that for some matrix/class combinations, the recommendations were made on limited data. For these combinations and for combinations where no data were obtained, recommendations for further experimental work were made. Methodologies for performing sample stability studies were examined with a view toward a standardized statistically validated approach in future work.

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1.0 INTRODUCTION

It is a truism that the quality of any decision is only as good as the information used in formulating it. In the case of laboratory analytical data, quality of information is a critical issue which depends on a wide range of factors beginning with sample collection and continuing throughout the process of sample storage, preservation, analysis, data handling, and reporting practices. This study addresses the stability during storage of environmental samples for trace organic analysis. Although several authoritative manuals (41, 74) provide extensive information regarding preservation and storage of samples for inorganic analysis, no comparable manual exists regarding samples for trace organic analysis. Toward this end, Enviroclean was engaged by the Ontario Ministry of the Environment to conduct a critical review of the literature and to make recommendations regarding storage times for which samples could be considered still valid for analysis.

1.1 Scope and Study Objectives

The primary purpose of this work was to assess the extent of information available regarding the stability during storage of approximately 350 trace organic contaminants in water (DW), waste water (WW), soil (SED), sediment(SED), air (AIR-C, AIR-F, AIR-S), vegetation (VEG), and biota (BIO). Specific objectives were:

i) To collect and compile data from existing sources regarding the stability during storage of samples for each of thirteen compound classes in each sample matrix;

ii) To critically evaluate the quality of data available for each compound class and matrix type;

iii) Based on these data, to recommend maximum storage times for each compound class and matrix type;

iv) To recommend areas for further research.

The following classes of compounds were evaluated:

Compound Class	Code
Neutral Chlorinated Extractables	OC
Volatile Organics - Sulphur Compounds	VS
Volatile Organics - Non-halogenated	VN
Volatile Organics - Halogenated	VH
Resin and Fatty Acids	RA
Chlorinated Dibenzo-p-dioxins and Dibenzofurans	DX
Carbamate Pesticides	CP
Phenyl Urea Pesticides	PP
Triazine Herbicides	TR
Organophosphorus Pesticides	OP
Base-neutral Extractable Compounds	BN
Acid Extractables - Phenolics	AE
Acid Extractables - Phenoxy Acid Herbicides	PA

A listing of the compounds for each class is given in appendix F.

1.2 Stability Studies

The availability of stability data is important to most if not all aspects of the analytical procedure. It is especially important in three areas; 1) scheduling and planning of field studies and subsequent analysis, 2) certification of standard and certified reference materials, and 3) specimen banking.

The scheduling and planning of field studies will depend on many factors including cost, objective(s) of study, stability of compounds of interest, transportation, scheduling and analysis. If the sample contains compounds that are stable for short periods of time then consideration as to transport and coordination with the analytical lab must be set up beforehand to ensure that analysis can be completed within the time period. On the other hand, if the compound is stable for longer periods of time, there will not be the same sense of urgency. Scheduling and coordination will still be needed but there is more leeway as to the completion of the analysis.

The use of stability data for reference materials is implied. The reference material usually contain instructions for storage and a past due date. This date, is the date past which the results obtained for the material can not be guaranteed. The data that was used to determine this date is usually not published but would be a useful source for the determination of stability if available.

The third area where stability data is being generated is in specimen banking. Specimen banks are being set up to store various samples for future analysis. The exact analysis to be performed may not be known or anticipated at the time of archiving. With slight modifications to the present procedure, a wealth of stability data can be produced. In addition to the storage of the specimens, spiked samples could be stored and analyzed at intervals to determine the long term stability of some compounds in various samples. What data that have been produced to date from studies with the specimen banks is not available or if available, is not extensive (224, 225, 226). It should be noted that the stability of the compounds to be analyzed for in these samples (at some future date) will have to be determined.

2.0 DATA COLLECTION

The data collection effort consisted of a computerized literature search combined with manual review of key handbooks and review documents, and personal contact with experts currently working in the field of analytical quality assurance and environmental specimen banking. Information obtained from these sources were compiled into a relational database using Dbase IV (Ashton-Tate, CA). From this, summary information was extracted for each compound class and matrix type to produce a series of information profiles from which storage recommendations were made.

2.1 Computerized Literature Search

The following databases were searched in the computerized literature survey:

Chemical Abstracts
NTIS
Compendex
Environmental Periodicals Bibliography
Enviroline
Pollution Abstracts
Science Citation Index
Water Resources Abstracts

The computerized search was used to identify existing scientific literature dealing specifically with sample storage and preservation. It was unknown at the outset whether such works would deal with only one or two compounds out of a class or with entire analytical groupings. Owing to the very large number of compounds within the scope of the survey, we elected as an initial search strategy to focus on sampling, sample storage, sample preservation, and synonyms of these terms as general keywords. A listing of keywords used in the computer searches can be found on page C-12 of Appendix C. This was found to be quite effective in producing a manageable number of citations as outlined in Appendices D and E. Copies of these citations will be included as a separately bound volume of this report.

Abstracts of the selected literature citations were printed, then manually reviewed to select those works most likely to contain relevant information. This produced a collection of approximately 320 papers which were obtained for detailed examination. These papers will be bound and included with the final report as separately bound volumes of this report.

2.2 Manual Search

Many aspects of the analysis of pesticides and herbicides in water, including sample storage and preservation were reviewed in detail in the handbook series edited by Chau and Afghan (227 - 229). Bibliographies of these works were manually reviewed to obtain further original citations dealing with sample storage and preservation.

A number of articles that were obtained were chosen subjectively (usually review articles or what seemed to be important papers in the field) for citation index searches. The result of these searches were examined and reviewed for works most likely to contain relevant information.

2.3 Contacts with Specialists

A key source of information for some compound classes and matrices was contact with research scientists working in various areas of environmental science. A list of individuals who provided data for use in this work is given in Appendix B. Among the agencies who provided data were:

Environment Canada - NWRI
Canadian Wildlife Service
Fisheries and Oceans Canada
National Research Council Canada
U.S. Environmental Protection Agency
Wisconsin Department of Natural Resources

2.4 Database Development

Because of the broad scope of the study and the need to compile and organize a very large amount of numerical data, a relational database using Dbase IV was developed. Information was organized into five files as follows:

FILE NAME	DESCRIPTION
BIBLIOG	Bibliographic information for each article examined. Each article was assigned an ascension number for referring to specific information taken from it.
CPD_LIST	The full list of compounds for which data was sought. For each compound the file contains the name, a unique alphabetical sorting key based on the compound name, the CAS Registry number, a two-letter code indicating the compound class, and selected physical constants for compounds for which data was readily available.

CLASSKEY	A listing of the compound classes with the corresponding class codes.
MATRIXKE	A listing of the sample matrices examined with their corresponding matrix codes.
CPD_DET	Detail records for each compound and storage condition for which data was obtained. Records in this file were linked to the Compound List through the CAS number, and to the Bibliography through the Ascension Number. Each record specified storage conditions, a storage time, and recovery for one compound.

Detailed listings of the file structures and the fields used for linking relationships between the various type of information are presented in Appendix C. To ensure accuracy in entry of the detailed information into the database, a short data entry program was written to perform the look-ups of ascension numbers and CAS numbers as the data was being entered. A listing of this program is also included in Appendix C.

Use of the relational database format greatly facilitated the process of compiling detailed numerical data from the papers reviewed. Articles were reviewed individually as they were received and the detailed information was added to the database on an on-going basis. Sorting and grouping the detailed data into summary tables was accomplished using a commercially available dbase report writer (R & R Report Writer, Concentric Data Systems, Bedford, MA). Articles used in this study are listed in numerical or ascension order and in alphabetical order in appendices D and E.

3.0 RESULTS AND DISCUSSION

In 1975, Thiers *et al* (62) wrote: "in clinical chemistry, [sample] stability is a critical consideration, but its assessment seems to have been neglected.". Upon review of approximately 320 articles covering a broad range of compound classes and sample matrices the same could also be said of trace organic analytical chemistry. Though the subject has been examined by a number of investigators, there is generally no consistent definition of stability. Experimental design rarely controls for variability in laboratory performance over time, the stability data reported was performed as an aside and not as the main thrust of the original study. Only a handful of the studies examined revealed a serious attempt to quantify the stability of samples for trace organic analysis during storage.

Measurement precision is a large practical problem in attempting to assess a change in a constituent concentration which might be attributable to instability during storage. Errors of this type arise from two primary sources: the intrinsic precision of the method of analysis at the concentration in question and the day-to-day variability in laboratory performance. As an operational definition, however, a constituent can be considered stable under specified storage conditions if it changes by less than one standard deviation at a 95 percent confidence level (62).

In many cases, there is a wealth of data available but in unpublished form. It is understood that the U.S. Fish and Wildlife Service has a large body of organochlorine pesticide data. We were unable to obtain this data as the authors would only release the data after publication. The National Institute of Standards and Technology (National Bureau of Standards) in the United States has a large body of stability data for many classes of organic pollutants. This body of data was used for determining the stability of standard reference materials. By deduction, any agency that markets certified reference materials should have stability data for the appropriate materials. Recommendations made in this report are based on the information on hand. Table 1 shows the number of data entries obtained for each matrix-compound class in this study. A summary of the recommendations made for each matrix-compound class are presented in table 2.

For most compound classes, there was no data available for the waste water matrix. In most cases, the definition of waste water is so broad that almost any water can be included in this matrix. For compound classes for which waste water data was obtained the difficulty arose from the different types of waste water used and whether it was treated or how it was treated. For future studies, the difficulty of obtaining a representative waste water will have to be addressed.

Table 1. Number of Data Points for Sample Matrix-Organic Compound Class Combinations

Compound Class	Matrix							
	AIR-C	AIR-F	AIR-S	BIO	DW	SED	VEG	WW
AE	0	0	0	* 24 *	937	0	0	0
BN	0	32	0	2	442	36	0	72
CP	XXX	XXX	XXX	XXX	8	10	38	0
DX	0	0	0	0	31	0	0	0
OC	4	0	0	264	844	14	14	11
OP	XXX	XXX	XXX	* 7 *	48	2	55	5
PA	XXX	XXX	XXX	XXX	9	2	2	0
PP	XXX	XXX	XXX	XXX	0	XXX	XXX	1
RA	XXX	XXX	XXX	XXX	0	XXX	XXX	64
TR	XXX	XXX	XXX	XXX	4	9	6	0
VH	67	0	0	XXX	158	18	XXX	2
VN	50	2	0	XXX	23	10	XXX	0
VS	0	0	0	XXX	XXX	XXX	XXX	XXX

* * – denotes combinations for which data was obtained and reported but not required.

XXX – denotes combinations not required for this work.

3.1 Sampling and Sample Handling

While this aspect of the analysis process is not within the scope and objectives of this study, this is an important aspect to consider. If sampling and subsequent sample handling is suspect, then, the resulting values obtained will also be suspect. In this study, it is assumed that the correct sampling and sample handling techniques were used by the numerous researchers, unless otherwise noted. A case in point is the data obtained for volatile organics-non halogenated in the air-filter matrix where the samples were kept in an open container and losses to the atmosphere occurred.

3.2 Data Handling and Information Profiles

For compound class-matrix combinations where there is data available, statistical analyses (mean, standard deviation) of analyte recovery against temperature, concentration, preservative, and time were performed. For the cases where there was sufficient data, graphical representation of the data was produced. Analysis of stability data obtained resulted in recommendations as summarized in table 2. Recommendations were also made for cases where there was an accepted storage criteria. For the cases where there was stability data obtained, but not sufficient for realistic detailed statistical analysis, a more subjective criteria was used in addition to the statistical analysis. The result of this was a provisional recommendation. The provisional recommendation is based on limited data and more detailed studies and/or data will be needed for confirmation. For cases where no data was obtained and no existing criteria was found, a tentative recommendation was made based on common sense, behaviour of other compounds in the same matrix. These recommendations will have to be tested in more detailed stability studies.

Summaries of the data for the appropriate matrices and compound classes are presented in table 2. These summaries are the result of the analysis of the data in the database (given in appendix A) and comparison to accepted criteria (if available).

TABLE 2 - Summary of Recommendations for Storage

List of Abbreviations

AE	Acid Extractables - Phenolics
AIR-C	Air - Canister or Bag
AIR-F	Air - Filter
AIR-S	Air - Sorbent Trap
BIO	Biota
BN	Base-Neutral Extractable Compounds
CP	Carbamate Pesticides
DW	Drinking/Surface Water
DX	Chlorinated Dibenzo-p-dioxins and Dibenzofurans
OC	Neutral Chlorinated Extractables
OP	Organophosphorus Pesticides
PA	Acid Extractables - Phenoxy Acid Herbicides
PP	Phenyl Urea Pesticides
RA	Resin and Fatty Acids
SED	Sediment
TR	Triazine Herbicides
VEG	Vegetation
VH	Volatile Organics - Halogenated
VN	Volatile Organics - Non-Halogenated
VS	Volatile Organics - Sulphur Compounds
WW	Waste Water

TABLE 2 - continued

Compound Class
Acid Extractables - Phenolics (AE)

Matrix	Recommendation
AIR-C	Tentative recommendation - store SUMMA canisters or glass sample containers at 25°C for up to 12 days before analysis.
AIR-F	Tentative recommendation - store filters at -20°C under air-argon gas mixture. Samples are stable for at least 2 years.
AIR-S	Tentative recommendation - follow U.S. E.P.A. protocol of sampling with distributed air volume sets. Sample tubes are sealed; refrigerated; analysis to be completed between 7 and 30 days after sampling.
BIO	Provisional recommendation - store at -20°C for up to 15 weeks with no preservation.
DW	Preserve with chloroform, stable for 3 weeks except for pentachlorophenol and some tetrachlorophenol. In this case use 5 ug/L H_2SO_4 but some losses may occur for all compounds.
SED	Tentative recommendation - store at -20°C for up to 15 weeks with no preservation.
VEG	Tentative recommendation - store at -20°C for up to 15 weeks with no preservation.
WW	Tentative recommendation - follow recommendation for drinking water or U.S. EPA protocol of collection in an amber glass container with teflon lined cap; add 0.008% $Na_2S_2O_3$ if chlorine presence is known or suspected; refrigerate; extract within 7 days and analyze within 40 days of extraction.

N/A - Not Applicable

Table 2 - continued

Compound Class
Base-Neutral Extractable Compounds (BN)

Matrix	Recommendation
AIR-C	Tentative recommendation - store SUMMA canisters or glass sample containers at 25°C for up to 12 days before analysis.
AIR-F	Provisional recommendation - store filters at -20°C under air-argon gas mixture. Samples are stable for at least 2 years.
AIR-S	Tentative recommendation - follow U.S. E.P.A. protocol of sampling with distributed air volume sets. Sample tubes are sealed; refrigerated; analysis to be completed between 7 and 30 days after sampling.
BIO	Tentative recommendation - Extract on to glass fibre filters, store at -20°C under air-argon gas mixture. Samples are stable for at least 2 years.
DW	Preserve samples at pH 2 without chlorine; store at 4°C for up to 33 days before extraction and analysis.
SED	Provisional recommendation - store at -20°C for 3 days before extraction.
VEG	Tentative recommendation - store at -20°C for 3 days before extraction.
WW	Provisional recommendation - preservation with formaldehyde; storage at 4°C; analysis to be completed within 56 days.

N/A - Not Applicable

Table 2 - continued

Compound Class
Carbamate Pesticides (CP)

Matrix	Recommendation
AIR-C	N/A
AIR-F	N/A
AIR-S	N/A
BIO	N/A
DW	Tentative recommendation - Extract in toluene; store at 3°C for up to 2 months before analysis or follow U.S. EPA protocol of collection in an amber glass container with teflon lined cap, pH 5-9; refrigerate; extract within 7 days and analyze within 40 days of extraction.
SED	Tentative Recommendation - Storage at 10°C or lower for maximum of 12 weeks.
VEG	Provisional recommendation - store samples at 4°C; extract as soon as possible and complete analysis within 30 days.
WW	Tentative recommendation - Extract in toluene; store at 3°C for up to 2 months before analysis or follow U.S. EPA protocol of collection in an amber glass container with teflon lined cap, pH 5-9; refrigerate; extract within 7 days and analyze within 40 days of extraction.

N/A - Not Applicable

Table 2 - continued

Compound Class
Chlorinated Dibenzo-p-dioxins and Dibenzofurans (DX)

Matrix	Recommendation
AIR-C	Tentative recommendation - store SUMMA canisters or glass sample containers at 25°C for up to 12 days before analysis.
AIR-F	Tentative recommendation - store filters at -20°C under air-argon gas mixture. Samples are stable for at least 2 years.
AIR-S	Tentative recommendation - follow U.S. E.P.A. protocol of sampling with distributed air volume sets. Sample tubes are sealed; refrigerated; analysis to be completed between 7 and 30 days after sampling.
BIO	Tentative recommendation - seal and store samples at -20°C and complete analysis as soon as possible.
DW	Provisional recommendation - Follow U.S. EPA protocol of collection in an amber glass bottle with teflon cap, add 0.008% $Na_2S_2O_3$ if chlorine present; refrigerate; extract within 7 days and analyze.
SED	Tentative recommendation - seal and store samples at -20°C and complete analysis as soon as possible.
VEG	Tentative recommendation - seal and store samples at -20°C and complete analysis as soon as possible.
WW	Tentative recommendation - Follow U.S. EPA protocol of collection in an amber glass bottle with teflon cap, add 0.008% $Na_2S_2O_3$ if chlorine present; refrigerate; extract within 7 days and analyze.

N/A - Not Applicable

Table 2 - continued

Compound Class
Neutral Chlorinated Extractables (OC)

Matrix	Recommendation
AIR-C	Tentative recommendation - store SUMMA canisters or glass sample containers at 25°C for up to 12 days before analysis.
AIR-F	Tentative recommendation - store filters at -20°C under air-argon gas mixture. Samples are stable for at least 2 years.
AIR-S	Tentative recommendation - follow U.S. E.P.A. protocol of sampling with distributed air volume sets. Sample tubes are sealed; refrigerated; analysis to be completed between 7 and 30 days after sampling.
BIO	Store PCB's at -20°C with no preservation for at least one year before analysis. Other compounds, store at -40°C for 4 weeks with no preservation or freeze drying; storage at -40°C for up to 6 months.
DW	Store samples at 4°C with no preservation, extract within 6 weeks and analyze. For longer storage times, addition of chloroform will increase storage time to 15 weeks.
SED	Tentative recommendation - store in glass containers at -85°C for up to 2 years before analysis.
VEG	Tentative recommendation - store samples at 4°C with extraction as soon as possible after sampling. Extracts can be stored at 4°C for up to 8 weeks and in some cases for 5 years.
WW	Tentative recommendation - collection in amber glass bottles; addition of chloroform; refrigerate; extract within 7 days and analyze.

N/A - Not Applicable

Table 2 - continued

Compound Class
Organophosphorus Pesticides (OP)

Matrix	Recommendation
AIR-C	N/A
AIR-F	N/A
AIR-S	N/A
BIO	Tentative recommendation - extract in 2-propanol and store at -17°C for up to 6 months for most compounds.
DW	Provisional recommendation - store samples at 4°C for up to 6 weeks with no preservation.
SED	Tentative recommendation - samples to be stored at -85°C for up to 40 months with no preservation.
VEG	Provisional recommendation - store samples at 4°C; extraction within 7 days; extracts stable for 8 weeks and in some cases 7 months at 4°C.
WW	Tentative recommendation - store samples at 4°C; extract with 7 days; store extracts at 4°C and analyze as soon as possible.

N/A - Not Applicable

Table 2 - continued

Compound Class
Acid Extractables - Phenoxy Acid Herbicides (PA)

Matrix	Recommendation
AIR-C	N/A
AIR-F	N/A
AIR-S	N/A
BIO	N/A
DW	Tentative recommendation - collect samples in amber glass bottles; pH=2 with H_2SO_4; samples stable for 50 days at 4°C.
SED	Tentative recommendation - store at -15°C for up to 33 days with no preservation before analysis.
VEG	Tentative recommendation - store unpreserved samples at -20°C for up to 73 weeks before analysis.
WW	Tentative recommendation - collect samples in amber glass bottles; pH=2 with H_2SO_4; samples stable for 50 days at 4°C or follow U.S. EPA protocol of collection in amber glass bottle with teflon lined cap; pH 5-9, refrigerate; extract within 7 days and analyze within 40 days of extraction.

N/A - Not Applicable

Table 2 - continued

Compound Class
Phenyl Urea Pesticides (PP)

Matrix	Recommendation
AIR-C	N/A
AIR-F	N/A
AIR-S	N/A
BIO	N/A
DW	Tentative recommendation - follow U.S. EPA protocol of collection in an amber glass bottle with teflon cap; pH 5-9; refrigerate; extract within 7 days and analyze within 40 days of extraction.
SED	N/A
VEG	N/A
WW	Tentative recommendation - follow U.S. EPA protocol of collection in an amber glass bottle with teflon cap; pH 5-9; refrigerate; extract within 7 days and analyze within 40 days of extraction.

N/A - Not Applicable

Table 2 - continued

Compound Class
Resin and Fatty Acids (RA)

Matrix	Recommendation
AIR-C	N/A
AIR-F	N/A
AIR-S	N/A
BIO	N/A
DW	Tentative recommendation - preserve samples at pH 11; store at 3°C for up to 10 days before extraction and analysis.
SED	N/A
VEG	N/A
WW	Provisional recommendation - preserve samples at pH 11; store at 3°C for up to 10 days before extraction and analysis.

N/A - not applicable

Table 2 - continued

Compound Class
Triazine Herbicides (TR)

Matrix	Recommendation
AIR-C	N/A
AIR-F	N/A
AIR-S	N/A
BIO	N/A
DW	Tentative recommendation would be extraction of samples with ethyl acetate; storage at 24°C for up to 1 year in light or follow U.S. EPA protocol of collection in amber glass container with teflon lined cap; pH 5-9; refrigerate; extract within 7 days and analyze within 40 days of extraction.
SED	Tentative recommendation - dry at 45°C for 24 hours with analysis to be completed in 180 days. Store at -20°C.
VEG	Tentative recommendation - extract samples as soon as possible and complete analysis within 2 months. Store at 4°C.
WW	Tentative recommendation would be extraction of samples with ethyl acetate; storage at 24°C for up to 1 year in light or follow U.S. EPA protocol of collection in amber glass container with teflon lined cap; pH 5-9; refrigerate; extract within 7 days and analyze within 40 days of extraction.

N/A - Not Applicable

Table 2 - continued

Compound Class
Volatile Organics - Halogenated (VH)

Matrix	Recommendation
AIR-C	Tentative recommendation - store SUMMA canisters or glass sample containers at 25°C for up to 12 days before analysis.
AIR-F	Tentative recommendation - store filters at -20°C under air-argon gas mixture. Samples are stable for at least 2 years or store sealed samples at 4°C for up to 6 days before analysis.
AIR-S	Tentative recommendation - follow U.S. E.P.A. protocol of sampling with distributed air volume sets. Sample tubes are sealed; refrigerated; analysis to be completed between 7 and 30 days after sampling.
BIO	N/A
DW	Follow U.S. EPA protocol of collection in an amber glass container with teflon lined septum; add 0.008% $Na_2S_2O_3$; refrigerate; complete analysis within 14 days.
SED	Tentative recommendation - store samples at 4°C for up to 56 days before analysis with no preservation.
VEG	N/A
WW	Tentative recommendation - follow U.S. EPA protocol of collection in an amber glass container with teflon lined septum; add 0.008% $Na_2S_2O_3$; refrigerate; complete analysis within 14 days.

N/A - Not Applicable

Table 2 - continued

Compound Class
Volatile Organics - Non-halogenated (VN)

Matrix	Recommendation
AIR-C	Tentative recommendation - store SUMMA canisters or glass sample containers at 25°C for up to 12 days before analysis.
AIR-F	Tentative recommendation - store filters at -20°C under air-argon gas mixture. Samples are stable for at least 2 years or store sealed samples at 4°C for up to 6 days before analysis.
AIR-S	Tentative recommendation - follow U.S. E.P.A. protocol of sampling with distributed air volume sets. Sample tubes are sealed; refrigerated; analysis to be completed between 7 and 30 days after sampling.
BIO	N/A
DW	Provisional recommendation - store samples at 4°C for up to 56 days with no preservation before analysis or follow U.S EPA protocols of collection in amber glass bottle with teflon lined septum; 0.008% $Na_2S_2O_3$; refrigerate; analyze within 14 days.
SED	Tentative recommendation - store samples at 4°C with no preservation. Analysis to be completed within 56 days.
VEG	N/A
WW	Tentative recommendation - follow U.S EPA protocols of collection in amber glass bottle with teflon lined septum; 0.008% $Na_2S_2O_3$; refrigerate; analyze within 14 days.

N/A - Not Applicable

Table 2 - continued

Compound Class
Volatile Organics - Sulphur Compounds (VS)

Matrix	Recommendation
AIR-C	Tentative recommendation - store SUMMA canisters or glass sample containers at 25°C for up to 12 days before analysis.
AIR-F	Tentative recommendation - store filters at -20°C under air-argon gas mixture. Samples are stable for at least 2 years or store sealed samples at 4°C for up to 6 days before analysis.
AIR-S	Tentative recommendation - follow U.S. E.P.A. protocol of sampling with distributed air volume sets. Sample tubes are sealed; refrigerated; analysis to be completed between 7 and 30 days after sampling.
BIO	N/A
DW	N/A
SED	N/A
VEG	N/A
WW	N/A

N/A - Not Applicable

3.2.1. Acid Extractables - Phenolics

No data was obtained in this study for the following matrices; air-canister, air-filter, air-sorbent trap, sediment, vegetation and waste water. There are no existing storage criteria for all the above mentioned matrices except for waste water.

For waste water, no data was obtained but the U.S. Environmental Protection Agency has a recommended storage criteria of; collection in an amber glass container with teflon lined cap; add 0.008% $Na_2S_2O_3$ if chlorine is present; refrigerate; extract within 7 days and analyze within 40 days of extraction.

Limited data (24) was obtained for biota. Provisional recommendations are to store at -20°C for up to 15 weeks with no preservation of sample. Even though there was no data obtained for the sediment and vegetation matrices, there are tenuous connections to biota, namely the possibility of bioactivity. The tentative recommendations for these two matrices would be to follow the same recommendation as for biota. A proper stability study would have to be performed before confirming this recommendation.

For drinking/surface waters, a large volume of data (937) was obtained. In this case it was possible to evaluate 5 different preservative conditions; chloroform, $CuSO_4$, and H_2SO_4 under 4 different conditions. These are shown in figures A-1 to A-6. If pentachlorophenol or some of the tetrachlorophenols are not compounds of interest then the best form of preservation would be using chloroform. If however they are compounds of interest then preservation of the samples with between 5-50 ug/L with H_2SO_4 is recommended. Losses of some of the compounds will occur. In all cases, storage of the samples will be at 4°C. Samples are stable for up to 15 weeks.

In the case of air-sorbent traps, no stability data was obtained. In work evaluated for this study, the U.S. EPA has a recommended procedure for sampling and storage. This procedure uses distributed air volume sets (324) which can readily identify if the data is good or if there are complicating factors present. It will not identify the complicating factor. For TENAX traps, the recommended procedure is to seal and refrigerate the tubes. Analysis to be completed within 7 to 30 days (323). This is a tentative recommendation for this matrix.

For the air canister matrix, a tentative recommendation for storage would be to follow the recommendation for this matrix as outlined for the volatile organics - halogenated or non-halogenated (sec 3.2.11 and 3.2.12). The samples are stored in SUMMA canisters or glass sample containers at 25°C for up to 12 days before analysis.

For air-filters, a tentative recommendation would be to follow the recommendation for this matrix as outlined in sec 3.2.2. or sec 3.2.12. These are extraction onto quartz glass fibre filters, store at -20°C under an air-argon matrix for up to 2 years (sec 3.2.2) or storage at 20°C with no preservation in sealed containers for up to 6 days before analysis (3.2.12).

3.2.2. Base Neutral Extractable Compounds

No data was obtained for the following matrices; air-canister, air-sorbent trap, and vegetation. For the air canister matrix, a tentative recommendation would be to follow the recommendation for the volatile organics - halogenated and non-halogenated (sec 3.2.11 and 3.2.12). This is storage of samples in SUMMA canisters or glass sample containers at 25°C for up to 12 days before analysis.

For the air-sorbent trap matrix, a tentative recommendation would be to follow the recommended U.S. EPA procedure as outlined above (sec 3.2.1.) and in references 323, 324 using distributed air volume sets.

For air-filters, a single paper (225) contained 32 entries for benzo{a}pyrene on glass fibre filters stored for up to four years. Samples were stable after two years with significantly higher recoveries at -20°C than at +20°C. There was no significant difference between filters stored under air and those stored under argon. The provisional recommendation for this compound-matrix combination is therefore to store for up to 2 years at -20°C. Storage under an inert atmosphere is not specifically indicated by the data but it would constitute prudent practice to avoid oxidation of labile compounds.

Only 2 entries were obtained for biota so storage recommendations were largely extrapolated from other related compound class-matrix combinations for which data were available. A provisional recommedation is therefore to extract within three days of collection and to store the extracts at -20°C for up to 2 years.

Thirty six entries were obtained for the sediment matrix, provisional recommendation is storage at -20°C for 3 days (see fig A-15). The use of preservatives should be investigated as data indicates that losses are apparent. No data was obtained for vegetation but as discussed in sec 3.2.1., the tentative recommendation would be to follow the recommendation as outlined for sediments.

For the waste water matrix, 72 entries were obtained. The data indicates (fig A-16, A-17) that a preliminary recommendation is preservation with formaldehyde, storage at 4°C, analysis to be completed within 56 days. This is contrary to the EPA criteria.

EPA criteria are collection in an amber glass container with teflon lined cap; add 0.008% $Na_2S_2O_3$; refrigerate; extract within 7 days and analyze within 40 days of extraction.

Four hundred and forty two entries were obtained for drinking water. Analysis of the data involved separating out the different preservatives, determining the mean recoveries and standard deviations. Graphical representation (fig A-9 to A-14) of this data indicates that the most favourable preservation technique is at pH 2 with no chlorine; store at 4°C for 33 days for most compounds (fig A-9). Reduced recoveries for some PAH's are evident for all the preservatives analyzed. No data was obtained for stability data with no preservatives. This possibility should be investigated as this is the recommended EPA sampling protocol.

3.2.3. Carbamate Pesticides

Limited data (8 entries) was obtained for drinking water and none for waste water. The data available is for one compound. Tentative recommendation is extract samples with toluene, store at 3°C for up to 2 months or use the U.S. EPA procedure of collection in an amber glass bottle with teflon lined cap, pH 5-9; refrigerate; extract within 7 days and analyze within 40 days of extraction. The same tentative recommendation is made for waste water matrix.

Ten entries were obtained for the sediment matrix. The number of compounds represented by this database is small. A tentative recommendation would be storage at 10°C or lower for a maximum of 12 weeks.

For the vegetable matrix, 38 entries were obtained but the number of compounds represented by these entries is small. Analysis of the data with no preservation (fig A-18) indicates that this is not the storage method of choice. The data indicated that some compounds can be stored for between 7 and 30 days or longer at low temperature (4°C) with no losses. The data indicates that the more stable form of storage would be as extracts as opposed to no preservation. Provisional recommendation is store samples at 4°C, extract as soon as possible and complete analysis within 30 days.

3.2.4. Chlorinated Dibenzo-p-dioxins and Dibenzofurans

No data was obtained for all matrices except drinking/surface water. For drinking/surface water, the data (31) obtained is limited. Analysis of the data with no preservation (Fig A-19) reveals that this does not appear to be the long term storage method of choice. From the limited data obtained, the absence of chlorine is necessary, no preservation, and at 4°C would be ideal. This is consistent with the U.S. EPA sampling protocol of no preservation. A tentative proposal would be the collection in an amber glass bottle with teflon cap, add 0.008% $Na_2S_2O_3$ if chlorine presence known or suspected; refrigerate; extract within 14 days and analyze. For waste water matrices, bioactivity may be a factor, thus preservation at low pH may inhibit any activity. A tentative recommendation would be collection in an amber glass container with teflon cap; add 0.008% $Na_2S_2O_3$ if chlorine presence known or suspected; preserve at pH 2; refrigerate; extract within 14 days and analyze.

As dioxins and dibenzofurans are generally acknowledged to be stable, it would be reasonable to tentatively recommend that the same storage guidelines for air-canisters/volatile organic - halogenated combination (sec 3.2.11) be followed for dioxins.

For air-filters, storage of the filters at low temperature in a sealed container as for base neutral extractables (sec 3.2.2) can be tentatively recommended. For air-sorbent trap matrix, the tentative recommendation would be to follow the U.S. EPA protocol of using distributed air volume sets, sorbent traps to be sealed and refrigerated after collection, analysis to be completed between 7 and 30 days after collection.

In the case of biota, sediments, and vegetation, no data was obtained and using the fact that dioxins and dibenzofurans are relatively stable, a tentative recommendation would be to seal and store samples at -20°C; extract and analyze as soon as possible after collection.

3.2.5. Neutral Chlorinated Extractables

No data was obtained for air-filter and air-sorbent trap matrices. Limited data was obtained for air-canister, sediment, vegetation and waste water matrices.

For the air-canister matrix, a total of 4 entries were obtained on 2 compounds. Due to the limited data, the tentative recommendation is store the sealed sample containers at ambient temperature, analyze within 7 days.

For air-filters, the tentative recommendation would be to store sealed sample containers under air-argon matrix at -85°C as outlined in sec 3.2.2. For air-sorbent trap matrix, the tentative recommendation would be to follow U.S. EPA practice of using distributed air volume sets as outlined in sec 3.2.1.

Sufficient data (264) was obtained for biota matrix, so that graphical representation was possible for some of the data (fig A-20 to A-24). Analysis of the data indicates that there are many possible storage techniques, however for some of the techniques, limited data was obtained and some of the techniques are not viable. Stability of pesticides in processed meat stored in tin cans decreases over a period of 4 years. For the majority of matrices and compounds, a preliminary recommendation would be that PCB's are stable for at least 1 year after storage at -20°C with no preservation. For other compounds, storage at -40°C for 1 month with no preservation or freeze dry and store at -40°C for up to 6 months would be the recommendations. If some of the more volatile compounds are of interest then storage at -40°C with no preservation would be recommended. In this case, there may be some losses.

For drinking/surface water 844 entries were obtained. Graphical representation of the different concentrations of preservatives (fig A-25 to A-29) reveals that variations do exist for all of the methods. Analysis of the data indicates two methods to be superior; these are storage at 4°C with no preservation or preservation with chloroform. In the former case, the samples are stable for 6 weeks and 15 weeks for the latter case. The recommendation for this matrix/compound class combination would be storage at 4°C with no preservation; extract within 6 weeks of collection. If samples are to be stored longer then addition of chloroform is recommended.

Limited data (14) was obtained for the sediment matrix. Analysis of data indicates that storage at -85°C is glass containers for up to 24 months is feasible. This is the tentative recommendation for this matrix.

Fourteen entries were obtained for the vegetation matrix. Only 4 compounds from the target list are represented. Analysis of the data reveal that storage with no preservation is variable and that extracts are stable. Tentative recommendation is storage at 4°C with extraction as soon as possible after sampling. Extracts can be stored at 4°C for up to 8 weeks and in some cases for as long as 5 years.

Eleven data entries on a total of eleven compounds were obtained for waste water. The data obtained indicated variable recoveries at 4°C with no preservation for some compounds. Based on results obtained with drinking/surface water, tentative recommendation is collection in amber glass bottles; preserve with chloroform; refrigerate; extract within 7 days and analyze.

3.2.6. Organophosphorus Pesticides

Seven data entries were obtained for seven compounds for biota. A tentative recommendation is extraction in 2-propanol and storage at -17°C for up to 6 months for most target compounds. This matrix/compound class was not in the original scope of the project but has been included as data was obtained.

For drinking/surface water matrix 48 entries were obtained. Analysis of the limited data obtained indicates that extracts are stable at 25°C for 6 weeks. The data also indicates that unpreserved samples stored at 4°C are also stable for 6 weeks. Provisional recommendation is storage of samples at 4°C for 6 weeks before extraction with no preservation.

A tentative recommendation for sediments would be storage at -85°C for up to 40 months. This is based on one observation each for two compounds on the target list. Even under these conditions, some losses are apparent.

A total of 55 entries were gathered for the vegetation matrix. Graphical representation (fig A-31) of recovery versus time for samples with no preservation indicates that this in not feasible. A comparison of these recoveries with those of extracts indicates that organophosphorus compounds are more stable upon extraction. Provisional recommendation is storage at 4°C; extraction of samples within 7 days; storage of extracts at 4°C for up to 8 weeks is possible and in some cases for as long as 7 months.

For waste water matrix 5 data entries were obtained. All data entries were for samples with no preservation. Recoveries indicate some form of preservation is necessary. Possible preservation methods are adjust pH to 2 or 10, chloroform or formaldehyde addition, extraction, etc. Based on the data for the drinking water matrix and as no information was obtained for addition of preservatives, a tentative recommendation is storage of samples at 4°C; extraction within 7 days. Extracts stored at 4°C for up to 8 weeks before analysis.

3.2.7. Acid Extractables - Phenoxy Acid Herbicides

Nine entries were obtained for drinking/surface water matrix. A total of 7 compounds are represented. Tentative recommendation is preservation of samples with sulphuric acid to pH 2 in an amber glass container. Storage of samples at 4°C up to 50 days before extraction and analysis.

One compound and 2 data entries were obtained for the sediment matrix. Tentative recommendation is storage at -15°C for up to 330 days with no preservation. The vegetation matrix also had 2 data entries for one compound. Based on limited data, tentative recommendation is storage of unpreserved samples at -20°C for up to 73 weeks.

No data was obtained for the waste water matrix in this study. Based on the data for drinking water, tentative recommendation would be preservation of samples with sulphuric acid to pH 2; storage at 4°C for up to 50 days before analysis or follow U.S. EPA protocol of collection in an amber glass bottle with teflon lined cap; pH 5-9; refrigerate; extract within 7 days and analyze within 40 days of extraction.

3.2.8. Phenyl Urea Pesticides

No data was obtained for drinking water matrix and 1 entry was obtained for waste water matrix. For the one entry, the analyte recovery was low after storage at 4°C for 4 weeks with no preservation. Tentative recommendation is to follow U.S. EPA protocol of collection in an amber glass container with teflon cap; pH 5-9; refrigerate; extract within 7 days and analyze within 40 days of extraction. This recommendation applies to both drinking and waste water matrices.

3.2.9. Resin and Fatty Acids

No data was obtained for drinking water matrix but 64 entries were obtained for waste water matrix. Analysis of the data, including graphical representation (fig A-32) of analyte recovery at pH 11 against temperature is sufficient to generate a provisional recommendation. Provisional recommendation for waste water matrix is preservation of samples at pH 11; store at 3°C for up to 10 days before analysis. This recommendation can be tentatively applied to drinking/surface water matrix.

3.2.10. Triazine Herbicides

Four data entries were obtained for drinking/surface water matrix and none for waste waters. Analysis of data obtained indicates that extraction of drinking/surface water samples with ethyl acetate; store at 24°C for up to 1 year in light or it may be appropriate to use U.S. EPA protocol of collection in amber glass container with teflon lined cap; pH 5-9; refrigerate; extract within 7 days and analyze within 40 days of extraction. These recommendations are tentatively applicable to both the drinking/surface and waste water matrices.

Limited data was obtained for sediments (9 entries for 2 compounds). Analysis of the data indicates a tentative recommendation of dry at 45°C for 24 hours with analysis to be completed within 180 days. Samples to be stored at -20°C.

Six entries for 2 compounds were obtained for vegetation. Analysis of data indicates that extraction of samples; storage of extracts at 4°C is stable for at least 3 weeks would be the tentative recommendation.

3.2.11. Volatile Organics - Halogenated

Sixty seven data entries were obtained for the air-canister matrix. Graphical representation of analyte recovery against time (fig A-33) and evaluation of the data indicates that storage in SUMMA canisters or glass sample containers at ambient air temperature (25°C?) is stable for 7 days within some exceptions (chloroform). The data indicates that some compounds are stable for 12 days. Provisional recommendation is to store samples in SUMMA canisters or glass containers at ambient air temperature with analysis to be completed within 7 days.

No data was obtained for air-filter or air-solvent trap matrices. For the air-filter matrix, tentative recommendation would be to follow the protocol as outlined in sec 3.2.12 for air filters and base neutral extractable compounds (sec 3.2.2). For air sorbent trap, tentative recommendation is to follow the U.S. EPA protocol using distributed air volume sets as outlined in sec 3.2.1. (323, 324).

For drinking water, 158 entries were obtained. Graphical representation of three different preservatives was possible (fig A-34 to A-37). Analysis of the data indicates that for the majority of compounds; no preservation, preservation with thiosulphate or ascorbic acid can be used. Of the three preservation methods, the use of thiosulphate would be the best choice, followed by ascorbic acid. Recommendations for this matrix would be to follow U.S. EPA protocols of collect in an amber glass bottle with teflon lined septum, preserve with 0.008% $Na_2S_2O_3$; refrigerate; complete analysis within 14 days.

For the sediment matrix, 18 entries were obtained for the sediment matrix. Analysis of the data indicates that tentative recommendations would be storage with no preservative at 4°C. Analysis to be completed within 56 days.

Two entries were obtained for waste waters. Storage was in open containers, losses to air occurred. Recoveries reported are suspect for this stability study. Tentative recommendation would be to follow U.S. EPA protocols of collection in an amber glass container with teflon lined septum; add 0.008% $Na_2S_2O_3$; refrigerate and complete analysis within 14 days.

3.2.12. Volatile Organics - Non-Halogenated

Fifty Entries were obtained for the air-canister matrix. Graphical representation of the data is shown on fig A-38. Evaluation of the data indicate that preliminary recommendation would be to store sealed SUMMA canisters or glass sample containers at 25°C for up to 12 days before analysis.

Two entries for 1 compound (styrene) were obtained for the air-filter matrix. These results indicate that storage at 20°C for 6 days with no preservation is feasible. For obvious reasons, this is a very tentative recommendation. These results are very different for those reached for the base neutral extractable compounds and may not be applicable to other compounds in this compound class. The tentative recommendation is storage of sealed samples at 4°C for up to 6 days before analysis.

No data was obtained for air-sorbent trap matrix. Tentative recommendation is to follow U.S. EPA protocol using distributed air volume sets (sec 3.2.1., ref 323, 324).

For drinking water matrix, 23 data entries were obtained. Evaluation of the data indicates a provisional recommendation of store samples at 4°C for up to 56 days before analysis or follow U.S. EPA protocol of collection in an amber glass bottle with teflon lined septum; add 0.008% $Na_2S_2O_3$; refrigerate; analyze within 14 days.

Ten entries were obtained for sediment matrix. Analysis of the data indicates a tentative recommendation of store samples at 4°C for up to 56 days before analysis.

No data was obtained for waste water matrix. Tentative recommendation for storage is to follow existing U.S. EPA protocol; collection of sample in an amber glass bottle with teflon lined septum; add 0.008% $Na_2S_2O_3$ if chlorine presence known or suspected; refrigerate; analysis to be completed within 14 days.

3.2.13. Volatile Organics - Sulphur Compounds.

No data was obtained for any of the matrices (air-canister, air-filters, air-sorbent trap) of interest. Tentative recommendations can be drawn from the behaviour of other compounds in the volatile organic classes (3.2.11, 3.2.12). These tentative recommendations are; for air-canister, store samples at 25°C in SUMMA canister or glass containers for up to 12 days before analysis; for air-filters, store sealed samples at 4°C for up to 6 days before analysis; for air-sorbent traps, follow U.S. EPA recommendations of using distributed air volume sets (ref 323, 324) as described in sec 3.2.1.

3.3 Conclusions

During the course of the study, little or no data could be obtained for the majority of matrices for each compound class. Tentative recommendations were made for matrix/compound class combinations in this category. For matrix/compound class combinations where limited data was obtained, provisional recommendations were the result. In cases where sufficient data was gathered, recommendations were made and are valid for the compounds used in the analysis. The recommendations are most likely to be valid for the other compounds on the target list.

In some cases, the tentative or provisional recommendation are to use existing criteria. In these cases, supporting data for the criteria was not examined as it was not obtained from the source (usually U.S. EPA). In cases where the existing criteria conflicted with the data obtained, both recommendations were given. Only with more data can these recommendations be confirmed.

4.0 RECOMMENDATIONS AND FUTURE WORK

It is evident that there is a lack of good stability data. To fill in these gaps revealed by this study, planned stability studies should be initiated. The length of time for these studies will depend on the overall objectives of the study, the compound class and matrix in question. It would seem reasonable, to have the stability studies go for at least a week to a month if the objective was to prove the stability of the sample within the usual time needed to complete an analysis. If the objective was to determine the long term stability of extracts, then a 5 year storage time would not be unreasonable.

At all times, it is essential to minimize errors due to faulty sampling techniques or sample handling. A case in point is for biota. If the samples are to be frozen, the tissue will suffer moisture loss. These samples should be weighed into storage bottles, sealed, the weight recorded and then frozen. At the time of analysis, the entire sample should be used for analysis and the recorded weight used as the sample weight. Precautions such as this are necessary in order to prevent the inclusion of questionable or biased data.

Areas where there is a need for stability data, are identified in table 3. The priority for the performance of the individual studies is not addressed at this time. The priorities should be established by the Ministry in conjunction with their current regulations and workload. For some of the matrices (biota, sediment, and vegetation), special precautions have to be taken. Long term cold storage of these samples can result in weight losses. Corrections for this can be made if the original sample weight is taken at the beginning of the study before freezing. This weight can then used for all subsequent calculations of recoveries, etc (personal communication, K. Aspila, CCIW).

The experimental design of the stability study should follow the method suggested by Thiers et al. (62). The advantages of this method are 1) stability for any given condition can usually be determined within 15 data pairs; 2) experiment is ongoing, so lab resources are not tied down to just the stability study (a maximum of two samples for each study are analyzed each day for the duration of the study); 3) A statistical method can be applied to the determination of each compound; 4) Inter-run bias is minimized or cancelled depending on the study protocol; and 5) samples can be run as part of the regular analysis stream as long as experimental conditions remain the same.

Table 3. Sample Matrix-Organic Compound Class Combinations Requiring Stability Studies

Compound Class	Matrix							
	AIR-C	AIR-F	AIR-S	BIO	DW	SED	VEG	WW
AE	F	F	F	* C *	N	F	F	F
BN	F	F	F	F	N	C	F	C
CP	XXX	XXX	XXX	XXX	F	F	C	F
DX	F	F	F	F	C	F	F	F
OC	F	F	F	N	N	F	F	F
OP	XXX	XXX	XXX	* F *	C	F	C	F
PA	XXX	XXX	XXX	XXX	F	F	F	F
PP	XXX	XXX	XXX	XXX	F	XXX	XXX	F
RA	XXX	XXX	XXX	XXX	F	XXX	XXX	C
TR	XXX	XXX	XXX	XXX	F	F	F	F
VH	F	F	F	XXX	N	F	XXX	F
VN	F	F	F	XXX	C	F	XXX	F
VS	F	F	F	XXX	XXX	XXX	XXX	XXX

* * – denotes combinations for which data was obtained and reported but not required.

F – denotes a full study required

C – denotes a study for confirmation of recommendations

N – denotes no further study required

XXX – denotes combinations not required for this work.

Disadvantages to the method are 1) in order to cancel out inter-run bias, samples have to be run every day irregardless to holidays or weekends; 2) minimization of the inter-run bias can be achieved with a modification to the experimental design by choosing the days when the study will be performed which will increase the time of the study; 3) stability times that can be used are relatively short in order to keep the time of the stability study reasonable.

The experiment or study may not go as far as 15 data pairs. The study stops once a decision has been reached. This method has been verified in house for a variety of compounds. Usually the decision on stability is reached before 10 data pairs.

Parameters that have to be decided include preservative type (if any), storage time, storage temperature, sample container and target compounds.

With the increased popularity and proliferation of solid phase extraction (SPE) techniques for the extraction, storage and analysis of organic compounds in a variety of environmental matrices some effort should be made to document compound stability on solid phase extraction cartridges. SPE cartridges have the potential to be used as field sampling devices as well as in-laboratory analytical tools. Discussions with the Ministry regarding SPE use should identify potential study areas.

Recommended preservatives to be studied are none, chloroform, formaldehyde, pH 2, pH 7, and pH 10. Recommended temperatures to be studied are 4 and -20°C. All samples should be sealed in amber glass bottles to minimize degradation in light except for the air-canister matrix.

Certain matrix/compound classes have a higher priority, such as resin and fatty acids in drinking and waste water. This is due to the enacting of MISA regulations for the pulp and paper industry. Other matrix/compound class combinations may have the same or greater degree of urgency. Priorities can be more easily identified and set by the Ministry.

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ENVIRONMENTAL RESEARCH

RESEARCH AND TECHNOLOGY BRANCH

Environment
Ontario

ISBN 0-7729-7496-9 (2 v. set)
0-7729-7498-5 (v.2)

CHLORINATED AND NONCHLORINATED ORGANICS STORAGE STUDIES

R. A. C. PROJECT NO. 412C
FINAL REPORT

Prepared for Environment Ontario by:

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SEPTEMBER 1990
Reprinted August 1991

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APPENDIX A - Compilation of Data, Statistical Analysis, and Recommendations.

List of Abbreviations

AE	Acid Extractables - Phenolics
AIR-C	Air - Canister or Bag
AIR-F	Air - Filter
AIR-S	Air - Sorbent Trap
AL	Aluminum
ASC	Ascension number
ASCORB	Ascorbic
BIO	Biota
BN	Base-Neutral Extractable Compounds
CH3CN	Acetonitrile
CONC	Concentration
CP	Carbamate Pesticides
CUSO4	Copper Sulphate
D	Days
DW	Drinking/Surface Water
DX	Chlorinated Dibenzo-p-dioxins and Dibenzofurans
EXTR	Extract
GLAS.FIB.FIL	Glass fibre filter
H, hrs	Hours
H2SO4	Sulphuric Acid
M, Mtn	Months
OC	Neutral Chlorinated Extractables
OP	Organophosphorus Pesticides
PA	Acid Extractables - Phenoxy Acid Herbicides
% REC	Percent Analyte Recovery
PP	Phenyl Urea Pesticides
RA	Resin and Fatty Acids
SED	Sediment
TEMP	Temperature in °C
TR	Triazine Herbicides
U.S. EPA	United States Environmental Protection Agency
VEG	Vegetation
VH	Volatile Organics - Halogenated
VN	Volatile Organics - Non-Halogenated
VS	Volatile Organics - Sulphur Compounds
W, Wk	Weeks
WW	Waste Water
Y	Years

COMPOUND CLASS PROFILE

Acid Extractables - Phenolics

Air - Canister or Bag:

Existing Criteria: None

Experimental Data: None

Data Evaluation: None

Data Deficiencies: No data obtained

Storage Recommendations: Tentative recommendation - store SUMMA canisters or glass sample containers at 25°C for up to 12 days before analysis.

COMPOUND CLASS PROFILE

Acid Extractables - Phenolics

Air - Filter:

Existing Criteria:	None
Experimental Data:	None
Data Evaluation:	None
Data Deficiencies:	No data obtained
Storage Recommendations:	Tentative recommendation - store filters at -20°C under air-argon gas mixture. Samples are stable for at least 2 years.

COMPOUND CLASS PROFILE

Acid Extractables - Phenolics

Air - Sorbent Trap:

Existing Criteria:	None
Experimental Data:	None
Data Evaluation:	None
Data Deficiencies:	No data obtained
Storage Recommendations:	Tentative recommendation - follow U.S. E.P.A. protocol of sampling with distributed air volume sets. Sample tubes are sealed; refrigerated; analysis to be completed between 7 and 30 days after sampling.

COMPOUND CLASS PROFILE

Acid Extractables - Phenolics

Biota:

Existing Criteria:	None
Experimental Data:	One study on chlorophenols only.
Data Evaluation:	Evaluation of recoveries for different phenols.
Data Deficiencies:	Only data for chlorophenols.
Storage Recommendations:	Provisional recommendation - store at -20°C for up to 15 weeks with no preservation.

COMPOUND CLASS: *Acid Extractables - Phenolics* MATRIX: *Biota* RUN DATE: *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME	RECOVERY	COMMENT	REFERENCE
4-chloro-3-methylphenol								
	NONE	200 - 200	ng/g	-20	15 - 15 W	100 - 100		
				Average Recovery:		100	Std. Dev.: 0.0	
3-chlorophenol								
	NONE	200 - 200	ng/g	-20	15 - 15 W	100 - 100		
				Average Recovery:		100	Std. Dev.: 0.0	
2.4-dichlorophenol								
	NONE	200 - 200	ng/g	-20	15 - 15 W	100 - 100		
				Average Recovery:		100	Std. Dev.: 0.0	
pentachlorophenol								
	NONE	20 - 200	ng/g	-20	15 - 15 W	100 - 100		
				Average Recovery:		100	Std. Dev.: 0.0	
2.3.4.5-tetrachlorophenol								
	NONE	1 - 200	ng/g	-20	15 - 15 W	100 - 100		
				Average Recovery:		100	Std. Dev.: 0.0	
2.3.4.6-tetrachlorophenol								
	NONE	18 - 200	ng/g	-20	15 - 15 W	100 - 100		
				Average Recovery:		100	Std. Dev.: 0.0	
2.3.5.6-tetrachlorophenol								
	NONE	200 - 200	ng/g	-20	15 - 15 W	100 - 100		
				Average Recovery:		100	Std. Dev.: 0.0	
2.3.4-trichlorophenol								
	NONE	200 - 200	ng/g	-20	15 - 15 W	100 - 100		
				Average Recovery:		100	Std. Dev.: 0.0	
2.3,5-trichlorophenol								
	NONE	200 - 200	ng/g	-20	15 - 15 W	100 - 100		
				Average Recovery:		100	Std. Dev.: 0.0	
2.3.6-trichlorophenol								
	NONE	200 - 200	ng/g	-20	15 - 15 W	100 - 100		
				Average Recovery:		100	Std. Dev.: 0.0	

COMPOUND CLASS: *Acid Extractables - Phenolics* MATRIX: *Biota* RUN DATE: *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME		RECOVERY	COMMENT	REFERENCE
2,4,5-trichlorophenol									
	NONE	200 - 200	ng/g	-20	15 - 15	W	100 - 100		
				Average Recovery:			100	Std. Dev.: 0.0	
2,4,6-trichlorophenol									
	NONE	2 - 200	ng/g	-20	15 - 15	W	100 - 100		
				Average Recovery:			100	Std. Dev.: 0.0	
3,4,5-trichlorophenol									
	NONE	200 - 200	ng/g	-20	15 - 15	W	100 - 100		
				Average Recovery:			100	Std. Dev.: 0.0	

Matrix: Biota Class: Acid Extractables - Phenolics

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
4-chloro-3-methylphenol	NONE	200 ng/g	-20	15 W	100	Analyzed at 0,3,6,10,15 weeks	215
3-chlorophenol	NONE	200 ng/g	-20	15 W	100	Analyzed at 0,3,6,10,15 weeks	215
2-chlorophenol	NONE	200 ng/g	-20	15 W	100	Analyzed at 0,3,6,10,15 weeks	215
4-chlorophenol	NONE	200 ng/g	-20	15 W	100	Analyzed at 0,3,6,10,15 weeks	215
2,4-dichlorophenol	NONE	200 ng/g	-20	15 W	100	Analyzed at 0,3,6,10,15 weeks	215
2,3-dichlorophenol	NONE	200 ng/g	-20	15 W	100	Analyzed at 0,3,6,10,15 weeks	215
2,6-dichlorophenol	NONE	200 ng/g	-20	15 W	100	Analyzed at 0,3,6,10,15 weeks	215
3,5-dichlorophenol	NONE	200 ng/g	-20	15 W	100	Analyzed at 0,3,6,10,15 weeks	215
3,4-dichlorophenol	NONE	200 ng/g	-20	15 W	100	Analyzed at 0,3,6,10,15 weeks	215
pentachlorophenol	NONE	20 ng/g	-20	15 W	100	Analyzed at 0,3,6,10,15 weeks	215
pentachlorophenol	NONE	200 ng/g	-20	15 W	100	Analyzed at 0,3,6,10,15 weeks	215
2,3,4,5-tetrachlorophenol	NONE	1 ng/g	-20	15 W	100	Analyzed at 0,3,6,10,15 weeks	215
2,3,4,5-tetrachlorophenol	NONE	200 ng/g	-20	15 W	100	Analyzed at 0,3,6,10,15 weeks	215
2,3,4,6-tetrachlorophenol	NONE	18 ng/g	-20	15 W	100	Analyzed at 0,3,6,10,15 weeks	215
2,3,4,6-tetrachlorophenol	NONE	200 ng/g	-20	15 W	100	Analyzed at 0,3,6,10,15 weeks	215
2,3,4,6-tetrachlorophenol	NONE	200 ng/g	-20	15 W	100	Analyzed at 0,3,6,10,15 weeks	215
2,3,5,6-tetrachlorophenol	NONE	200 ng/g	-20	15 W	100	Analyzed at 0,3,6,10,15 weeks	215
2,3,4-trichlorophenol	NONE	200 ng/g	-20	15 W	100	Analyzed at 0,3,6,10,15 weeks	215
2,3,5-trichlorophenol	NONE	200 ng/g	-20	15 W	100	Analyzed at 0,3,6,10,15 weeks	215
2,3,6-trichlorophenol	NONE	200 ng/g	-20	15 W	100	Analyzed at 0,3,6,10,15 weeks	215
2,4,5-trichlorophenol	NONE	200 ng/g	-20	15 W	100	Analyzed at 0,3,6,10,15 weeks	215
2,4,6-trichlorophenol	NONE	2 ng/g	-20	15 W	100	Analyzed at 0,3,6,10,15 weeks	215
2,4,6-trichlorophenol	NONE	200 ng/g	-20	15 W	100	Analyzed at 0,3,6,10,15 weeks	215
3,4,5-trichlorophenol	NONE	200 ng/g	-20	15 W	100	Analyzed at 0,3,6,10,15 weeks	215

COMPOUND CLASS PROFILE

Acid Extractable - Phenolics

Drinking/Surface Water:

Existing Criteria:	U.S. EPA Sampling Manual Collect in amber glass container with teflon lined cap; 0.008% $Na_2S_2O_3$; refrigerate; extract within 7 days; analyze within 40 days of extraction.
Experimental Data:	One major study. Preservation with $CuSO_4$, H_2SO_4 and Chloroform studied. 0.5 - 50 ug/L levels in waters.
Data Evaluation:	Statistical Evaluation of H_2SO_4 vs $CHCl_3$ and $CuSO_4$ show that H_2SO_4 gives more consistent recoveries for the compounds studied. Demonstrates sample stability within 1 S.D. for all compounds except 2,3,4,5 Tetrachlorophenol for 15 weeks study duration.
Data Deficiencies:	Insufficient or no data obtained for acetosyringone, acetovanillone, 4-chloro-3-methylphenol, cresols, 4,6-dinitro-o-cresol, 2,4-dinitrophenol, guaiacol, nitrophenols, phenol, syringaldehyde, homovanillic acid, and vanillin
Storage Recommendations:	Preserve with chloroform, stable for 3 weeks except for pentachlorophenol and some tetrachlorophenol. In this case use 5 ug/L H_2SO_4 but some losses may occur for all compounds.

COMPOUND CLASS: *Acid Extractables - Phenolics* MATRIX: *Drinking/Surface Water* RUN DATE: *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME		RECOVERY	COMMENT	REFERENCE
acetosyringone									
	NONE	7 - 7	ug/L	25	12 - 12		76 - 76		
				Average Recovery:			76	Std. Dev.: 0.0	
3-chlorophenol									
	CHLOROFORM	-		4	3 - 15	W	86 - 101		
				Average Recovery:			92	Std. Dev.: 5.4	
	CUSO4	-		4	5 - 10	W	72 - 87		
				Average Recovery:			81	Std. Dev.: 5.9	
	H2SO4	0.5 - 50	ug/L	4	1 - 15	W	42 - 101		
				Average Recovery:			87	Std. Dev.: 15.3	
2.4-dichlorophenol									
	CHLOROFORM	-		4	3 - 15	W	84 - 102		
				Average Recovery:			90	Std. Dev.: 5.6	
	CUSO4	-		4	5 - 10	W	76 - 93		
				Average Recovery:			85	Std. Dev.: 5.1	
	H2SO4	0.5 - 50	ug/L	4	1 - 15	W	65 - 102		
				Average Recovery:			91	Std. Dev.: 6.2	
pentachlorophenol									
	CHLOROFORM	-		4	3 - 15	W	4 - 31		
				Average Recovery:			13	Std. Dev.: 10.8	
	CUSO4	-		4	5 - 10	W	81 - 86		
				Average Recovery:			84	Std. Dev.: 2.5	
	H2SO4	0.5 - 50	ug/L	4	1 - 15	W	71 - 113		
				Average Recovery:			96	Std. Dev.: 7.1	
2.3.4.5-tetrachlorophenol									
	CHLOROFORM	-		4	3 - 15	W	61 - 82		
				Average Recovery:			75	Std. Dev.: 8.6	
	CUSO4	-		4	5 - 10	W	89 - 93		
				Average Recovery:			91	Std. Dev.: 2.0	
	H2SO4	0.5 - 50	ug/L	4	1 - 15	W	65 - 106		
				Average Recovery:			88	Std. Dev.: 9.2	

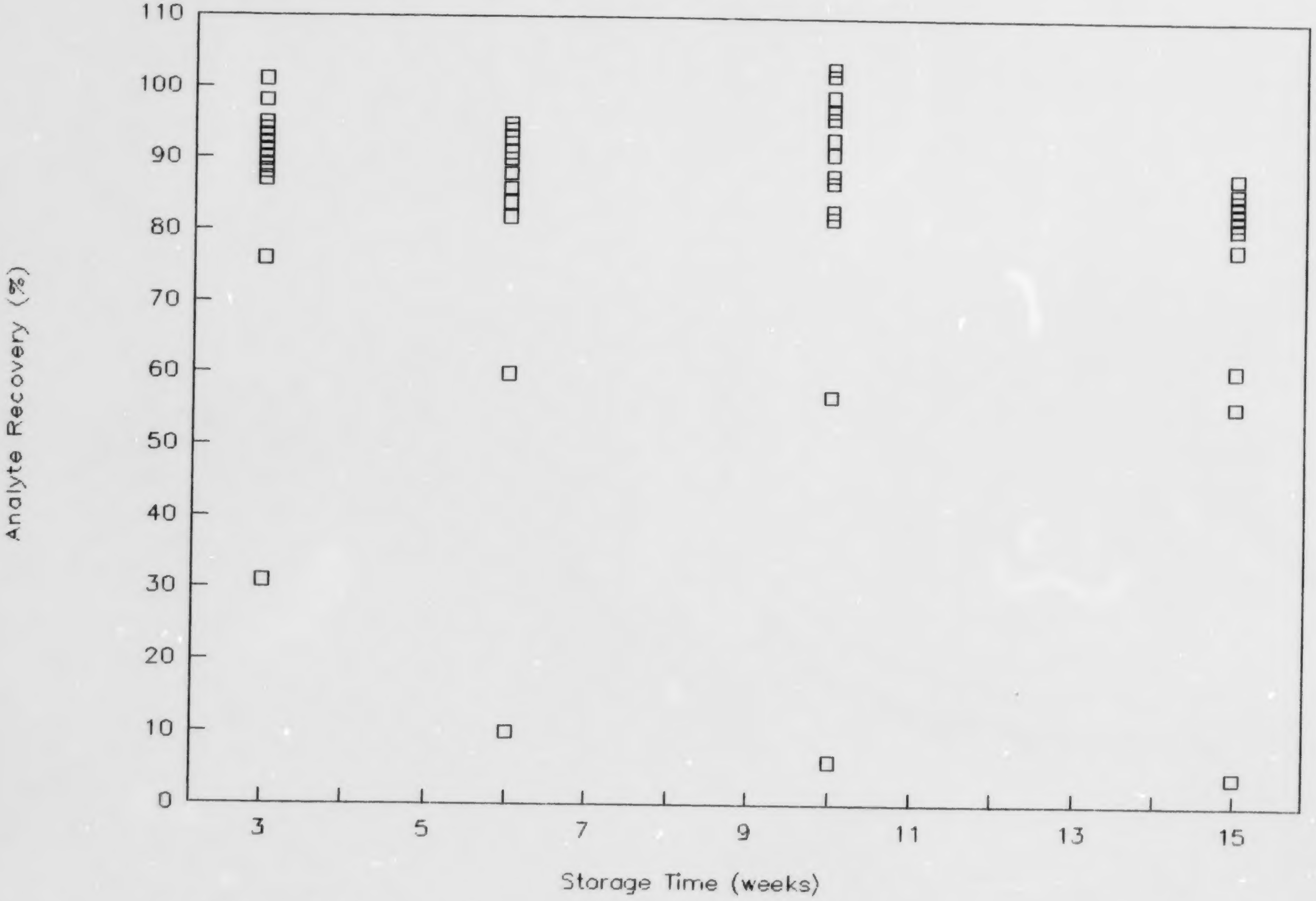
COMPOUND CLASS: *Acid Extractables - Phenolics*　　MATRIX: *Drinking/Surface Water*　　RUN DATE: *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION	T (C)	TIME	RECOVERY	COMMENT	REFERENCE
2.3.4.6-tetrachlorophenol							
	CHLOROFORM	-	4	3 - 15 W	78 - 88		
			Average Recovery:		84	Std. Dev.: 3.8	
	CUSO4	-	4	5 - 10 W	88 - 91		
			Average Recovery:		90	Std. Dev.: 1.5	
	H2SO4	0.5 - 50 ug/L	4	1 - 15 W	82 - 108		
			Average Recovery:		95	Std. Dev.: 5.2	
2.3.5.6-tetrachlorophenol							
	CHLOROFORM	-	4	3 - 15 W	56 - 76		
			Average Recovery:		62	Std. Dev.: 8.1	
	CUSO4	-	4	5 - 10 W	86 - 91		
			Average Recovery:		89	Std. Dev.: 2.5	
	H2SO4	0.5 - 50 ug/L	4	1 - 15 W	75 - 111		
			Average Recovery:		96	Std. Dev.: 7.9	
2.3.4-trichlorophenol							
	CHLOROFORM	-	4	3 - 15 W	82 - 99		
			Average Recovery:		90	Std. Dev.: 6.0	
	CUSO4	-	4	5 - 10 W	88 - 89		
			Average Recovery:		89	Std. Dev.: 0.5	
	H2SO4	0.5 - 50 ug/L	4	1 - 15 W	76 - 99		
			Average Recovery:		90	Std. Dev.: 5.8	
2.3.5-trichlorophenol							
	CHLOROFORM	-	4	3 - 15 W	81 - 96		
			Average Recovery:		90	Std. Dev.: 5.6	
	CUSO4	-	4	5 - 10 W	92 - 96		
			Average Recovery:		94	Std. Dev.: 2.0	
	H2SO4	0.5 - 50 ug/L	4	1 - 15 W	76 - 103		
			Average Recovery:		90	Std. Dev.: 6.7	
2.3.6-trichlorophenol							
	CHLOROFORM	-	4	3 - 15 W	83 - 94		
			Average Recovery:		87	Std. Dev.: 4.3	

COMPOUND CLASS: *Acid Extractables - Phenolics* MATRIX: *Drinking/Surface Water* RUN DATE: *12-Oct-89*

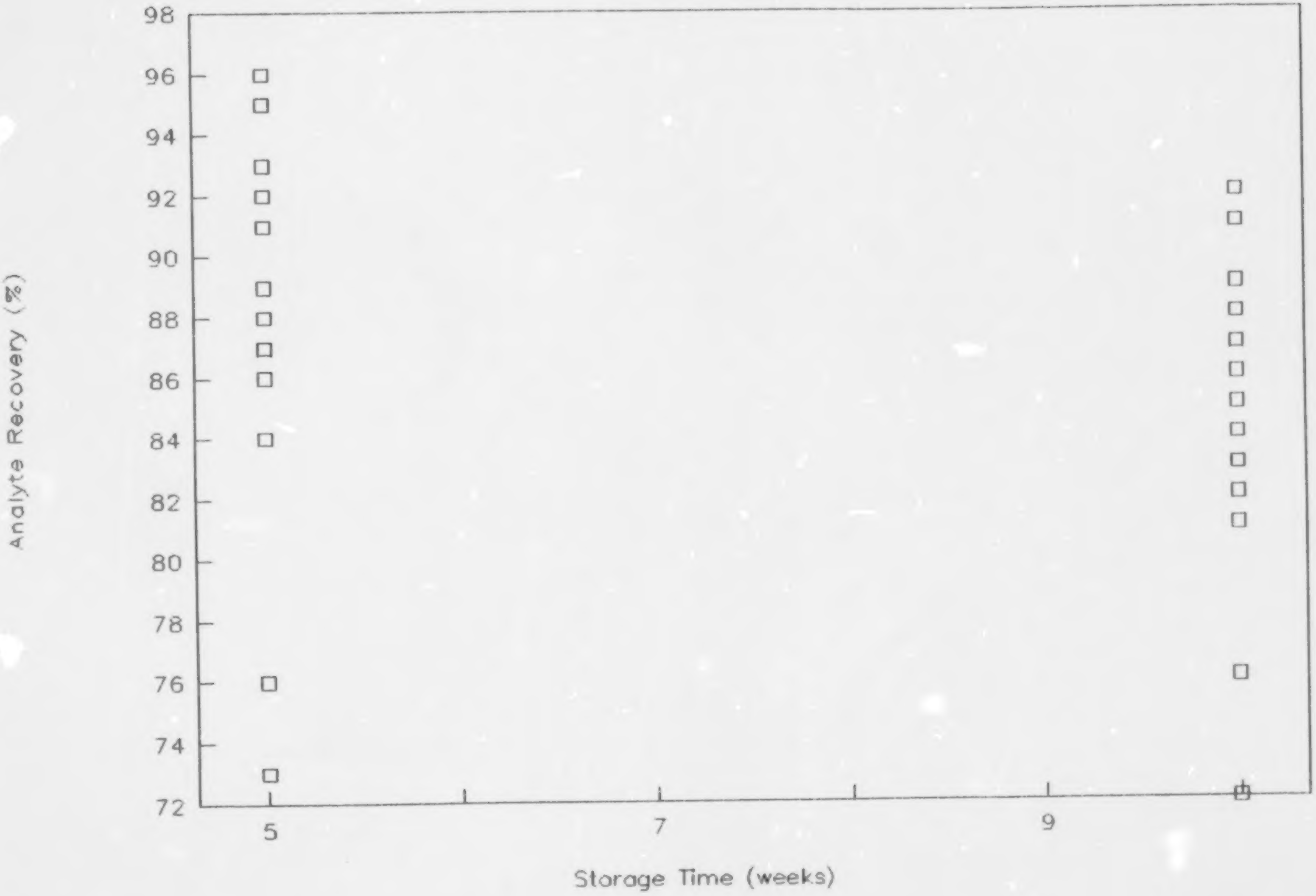
COMPOUND	PRESERVATIVE	CONCENTRATION	T (C)	TIME	RECOVERY	COMMENT	REFERENCE
2.3.6-trichlorophenol							
	CUSO4	-	4	5 - 10 W	88 - 96		
			Average Recovery:		92	Std. Dev.: 4.0	
	H2SO4	0.5 - 50 ug/L	4	1 - 15 W	81 - 105		
			Average Recovery:		95	Std. Dev.: 5.3	
2.4.5-trichlorophenol							
	CHLOROFORM	-	4	3 - 15 W	83 - 99		
			Average Recovery:		92	Std. Dev.: 6.1	
	CUSO4	-	4	5 - 10 W	91 - 92		
			Average Recovery:		92	Std. Dev.: 0.5	
	H2SO4	0.5 - 50 ug/L	4	1 - 15 W	75 - 103		
			Average Recovery:		90	Std. Dev.: 6.3	
2.4.6-trichlorophenol							
	CHLOROFORM	-	4	3 - 15 W	86 - 95		
			Average Recovery:		90	Std. Dev.: 3.8	
	CUSO4	-	4	5 - 10 W	85 - 95		
			Average Recovery:		90	Std. Dev.: 5.0	
	H2SO4	0.5 - 50 ug/L	4	1 - 15 W	83 - 107		
			Average Recovery:		96	Std. Dev.: 5.1	
3.4.5-trichlorophenol							
	CHLOROFORM	-	4	3 - 15 W	83 - 103		
			Average Recovery:		93	Std. Dev.: 7.2	
	CUSO4	-	4	5 - 10 W	84 - 86		
			Average Recovery:		85	Std. Dev.: 1.0	
	H2SO4	0.5 - 50 ug/L	4	1 - 15 W	66 - 101		
			Average Recovery:		88	Std. Dev.: 8.0	

Figure A-1 Analyte Recovery with Chloroform Preservation for Acid Extractable-Phenolics in Drinking/Surface Water Matrix



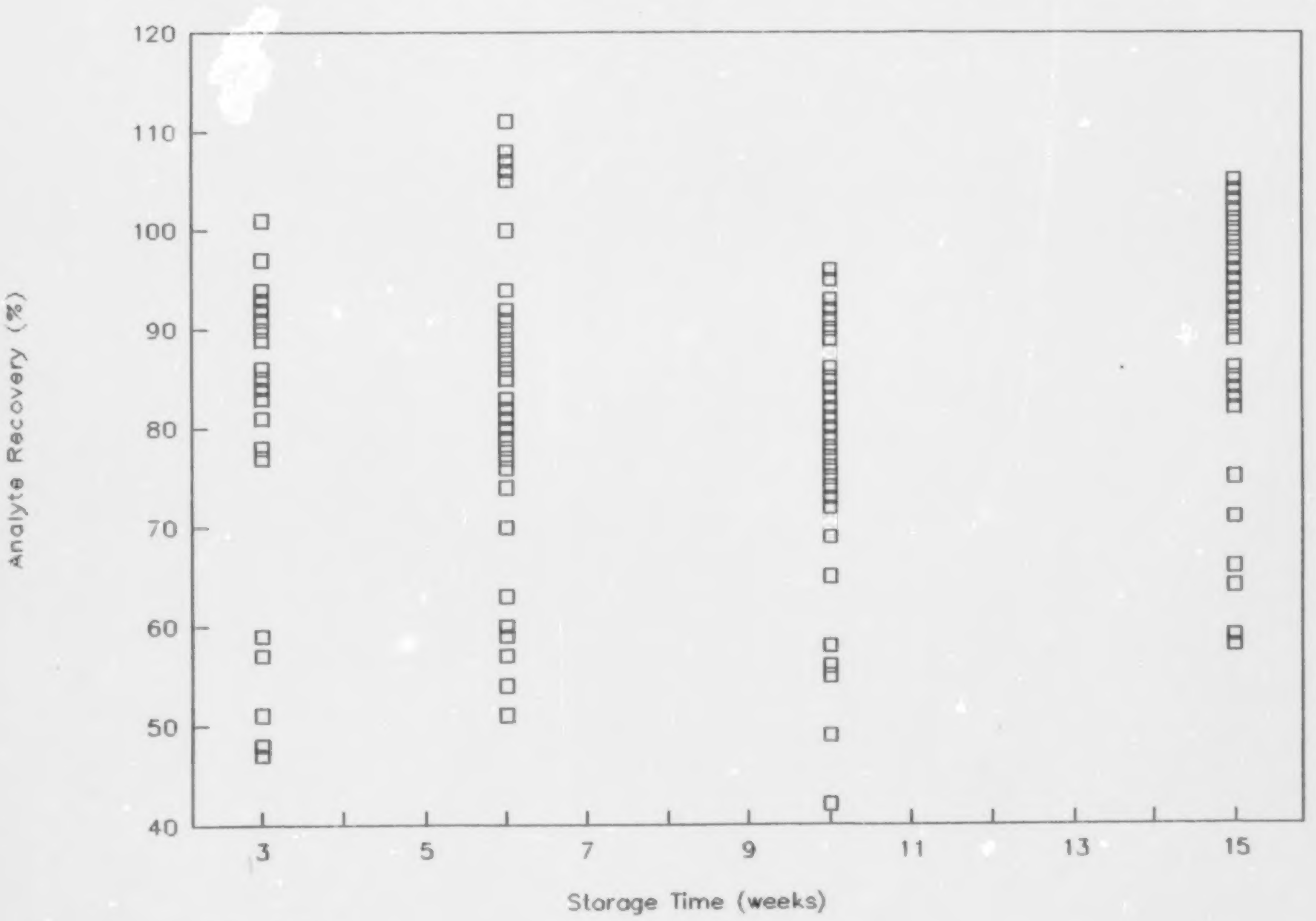
Ref: ASC 218

Figure A-2 Analyte Recovery with Copper Sulphate Preservation for Acid Extractable-Phenolics in Drinking/Surface Water Matrix



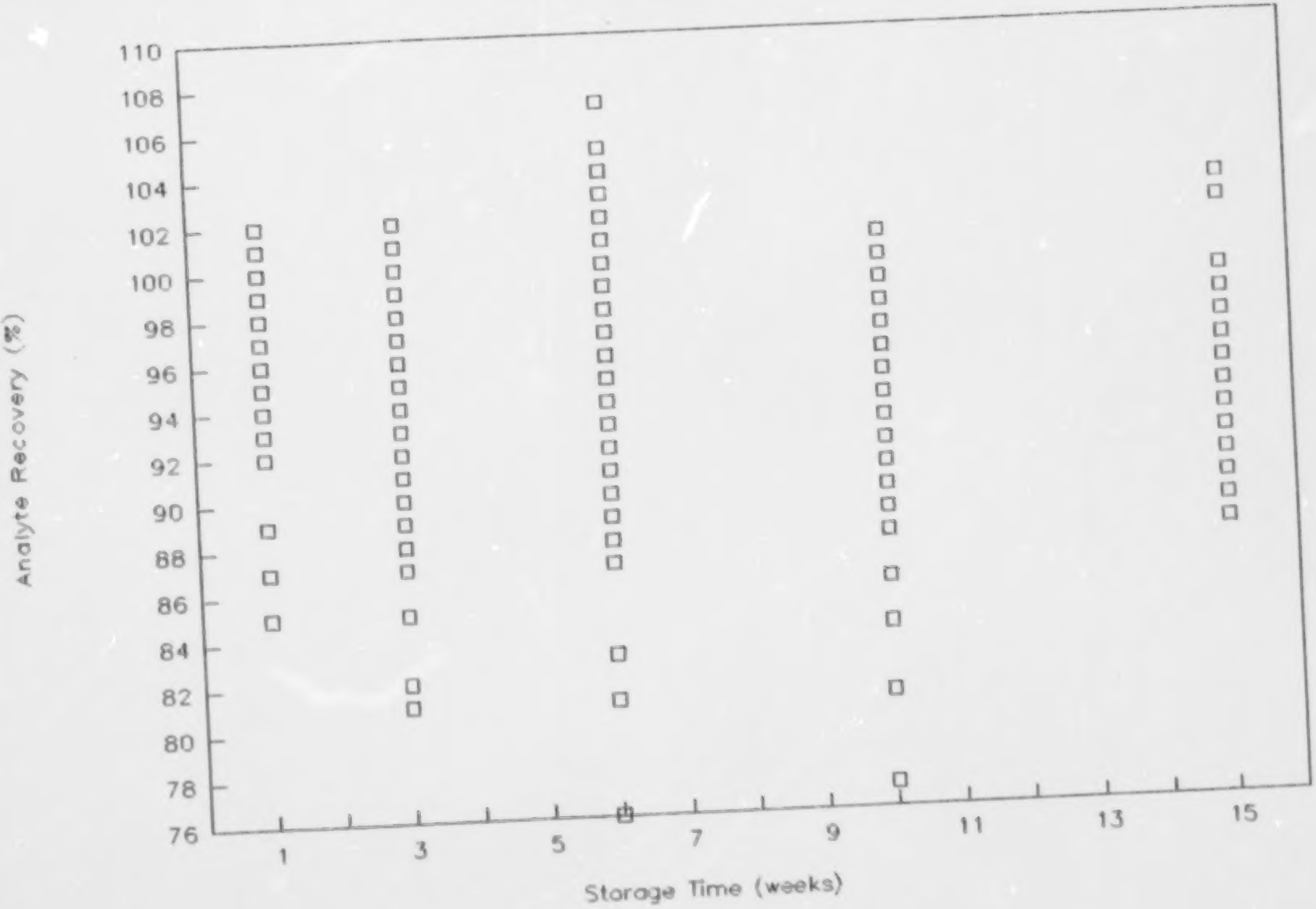
Ref: ASC 218

Figure A-3 Analyte Recovery with 0.5 µg/L Sulphuric Acid Preservation for Acid Extractable-Phenolics in Drinking/Surface Water Matrix



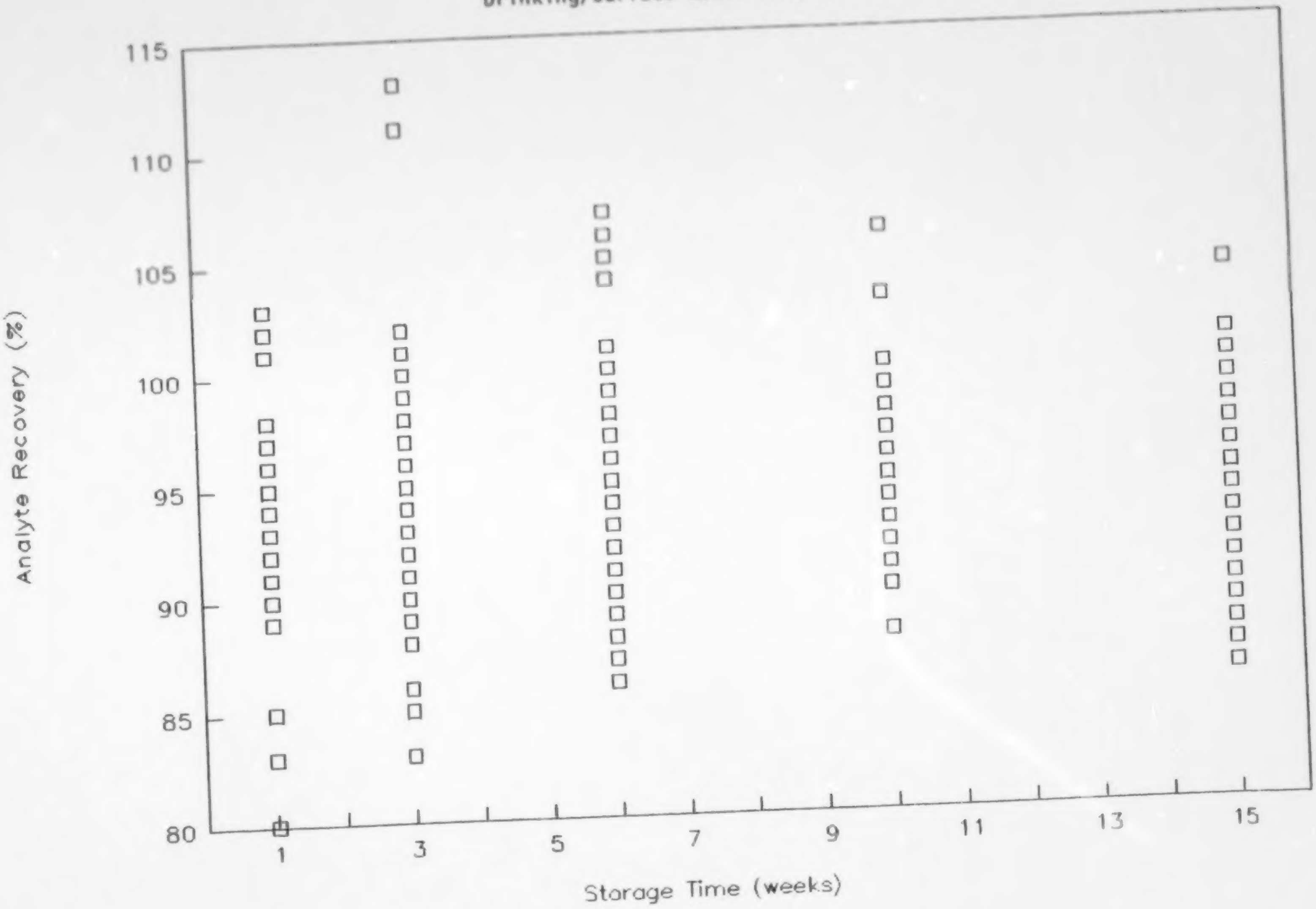
Ref: ASC 218

Figure A-4 Analyte Recovery with 5 µg/L Sulphuric Acid Preservation for Acid Extractable-Phenolics in Drinking/Surface Water Matrix



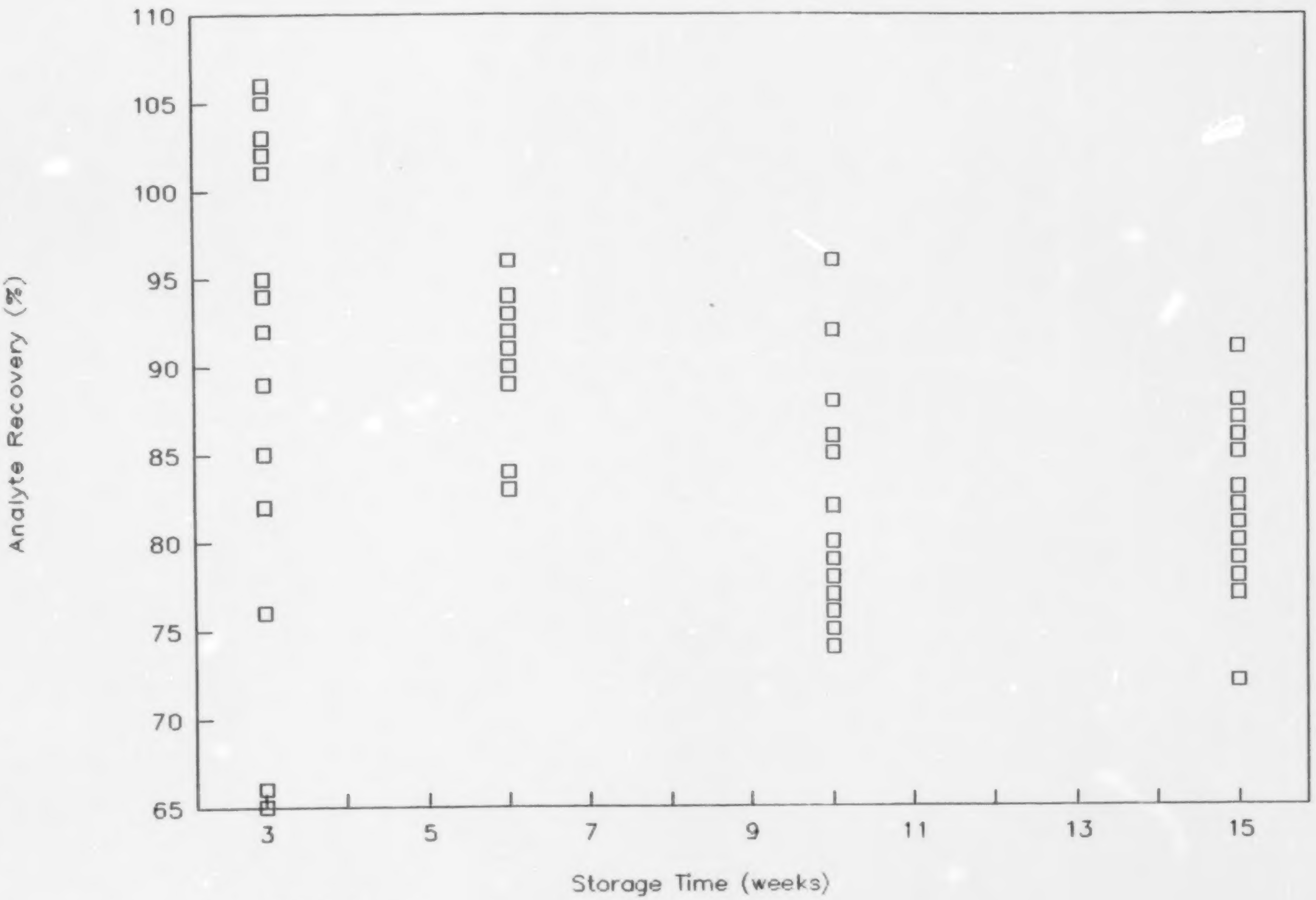
Ref: ASC 218

Figure A-5 Analyte Recovery with 50 µg/L Sulphuric Acid Preservation for Acid Extractable-Phenolics in Drinking/Surface Water Matrix



Ref: ASC 218

Figure A-6 Analyte Recovery with Sulphuric Acid Preservation for Acid Extractable-Phenolics in Drinking/Surface Water Matrix



Ref: ASC 218

Matrix: Water

Class: Acid Extractables - Phenolics

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
acetosyringone	NONE	7 ug/L	25	12	76	time in hrs., seawater	36
3-chlorophenol	CHLOROFORM		4	3 W	95	Lake Ontario water	218
2-chlorophenol	CHLOROFORM		4	3 W	101	Lake Ontario water	218
4-chlorophenol	CHLOROFORM		4	3 W	98	Lake Ontario water	218
3-chlorophenol	CHLOROFORM		4	6 W	88	Lake Ontario water	218
2-chlorophenol	CHLOROFORM		4	6 W	86	Lake Ontario water	218
4-chlorophenol	CHLOROFORM		4	6 W	88	Lake Ontario water	218
3-chlorophenol	CHLOROFORM		4	10 W	97	Lake Ontario water	218
4-chlorophenol	CHLOROFORM		4	10 W	97	Lake Ontario water	218
2-chlorophenol	CHLOROFORM		4	10 W	88	Lake Ontario water	218
3-chlorophenol	CHLOROFORM		4	15 W	86	Lake Ontario water	218
2-chlorophenol	CHLOROFORM		4	15 W	86	Lake Ontario water	218
4-chlorophenol	CHLOROFORM		4	15 W	88	Lake Ontario water	218
3-chlorophenol	CUSO4		4	5 W	84	Lake Ontario water	218
2-chlorophenol	CUSO4		4	5 W	87	Lake Ontario water	218
4-chlorophenol	CUSO4		4	5 W	73	Lake Ontario water	218
3-chlorophenol	CUSO4		4	10 W	82	Lake Ontario water	218
4-chlorophenol	CUSO4		4	10 W	72	Lake Ontario water	218
2-chlorophenol	CUSO4		4	10 W	85	Lake Ontario water	218
3-chlorophenol	H2SO4		4	3 W	89	Lake Ontario water	218
4-chlorophenol	H2SO4		4	3 W	85	Lake Ontario water	218
2-chlorophenol	H2SO4		4	3 W	76	Lake Ontario water	218
2-chlorophenol	H2SO4		4	6 W	92	Lake Ontario water	218
3-chlorophenol	H2SO4		4	6 W	93	Lake Ontario water	218
4-chlorophenol	H2SO4		4	6 W	93	Lake Ontario water	218
2-chlorophenol	H2SO4		4	10 W	82	Lake Ontario water	218
4-chlorophenol	H2SO4		4	10 W	80	Lake Ontario water	218
3-chlorophenol	H2SO4		4	10 W	80	Lake Ontario water	218
2-chlorophenol	H2SO4		4	15 W	82	Lake Ontario water	218
4-chlorophenol	H2SO4		4	15 W	82	Lake Ontario water	218
3-chlorophenol	H2SO4		4	15 W	83	Lake Ontario water	218
2-chlorophenol	H2SO4	0.5 ug/L	4	3 W	84	Atlantic Region water	218
2-chlorophenol	H2SO4	0.5 ug/L	4	3 W	91	Ontario Region water	218
3-chlorophenol	H2SO4	0.5 ug/L	4	3 W	57	Western Region water	218
3-chlorophenol	H2SO4	0.5 ug/L	4	3 W	59	Atlantic Region water	218
3-chlorophenol	H2SO4	0.5 ug/L	4	3 W	57	Ontario Region water	218
2-chlorophenol	H2SO4	0.5 ug/L	4	3 W	81	Western Region water	218
4-chlorophenol	H2SO4	0.5 ug/L	4	3 W	47	Western Region water	218
4-chlorophenol	H2SO4	0.5 ug/L	4	3 W	48	Atlantic Region water	218
4-chlorophenol	H2SO4	0.5 ug/L	4	3 W	51	Ontario Region water	218
4-chlorophenol	H2SO4	0.5 ug/L	4	6 W	54	Ontario Region water	218
4-chlorophenol	H2SO4	0.5 ug/L	4	6 W	57	Atlantic Region water	218
2-chlorophenol	H2SO4	0.5 ug/L	4	6 W	85	Western Region water	218
3-chlorophenol	H2SO4	0.5 ug/L	4	6 W	63	Ontario Region water	218
4-chlorophenol	H2SO4	0.5 ug/L	4	6 W	51	Western Region water	218
2-chlorophenol	H2SO4	0.5 ug/L	4	6 W	91	Ontario Region water	218
3-chlorophenol	H2SO4	0.5 ug/L	4	6 W	59	Western Region water	218
2-chlorophenol	H2SO4	0.5 ug/L	4	6 W	88	Atlantic Region water	218
3-chlorophenol	H2SO4	0.5 ug/L	4	6 W	60	Atlantic Region water	218

Matrix: Water Class: Acid Extractables - Phenolics

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
4-chlorophenol	H2SO4	0.5 ug/L	4	10 W	42	Western Region water	218
3-chlorophenol	H2SO4	0.5 ug/L	4	10 W	55	Ontario Region water	218
3-chlorophenol	H2SO4	0.5 ug/L	4	10 W	58	Western Region water	218
2-chlorophenol	H2SO4	0.5 ug/L	4	10 W	85	Atlantic Region water	218
2-chlorophenol	H2SO4	0.5 ug/L	4	10 W	83	Western Region water	218
3-chlorophenol	H2SO4	0.5 ug/L	4	10 W	56	Atlantic Region water	218
2-chlorophenol	H2SO4	0.5 ug/L	4	10 W	76	Ontario Region water	218
4-chlorophenol	H2SO4	0.5 ug/L	4	10 W	42	Atlantic Region water	218
4-chlorophenol	H2SO4	0.5 ug/L	4	10 W	49	Ontario Region water	218
4-chlorophenol	H2SO4	0.5 ug/L	4	15 W	58	Ontario Region water	218
4-chlorophenol	H2SO4	0.5 ug/L	4	15 W	58	Atlantic Region water	218
3-chlorophenol	H2SO4	0.5 ug/L	4	15 W	66	Atlantic Region water	218
3-chlorophenol	H2SO4	0.5 ug/L	4	15 W	64	Western Region water	218
2-chlorophenol	H2SO4	0.5 ug/L	4	15 W	95	Ontario Region water	218
3-chlorophenol	H2SO4	0.5 ug/L	4	15 W	64	Ontario Region water	218
4-chlorophenol	H2SO4	0.5 ug/L	4	15 W	59	Western Region water	218
2-chlorophenol	H2SO4	0.5 ug/L	4	15 W	96	Atlantic Region water	218
2-chlorophenol	H2SO4	0.5 ug/L	4	15 W	96	Western Region water	218
3-chlorophenol	H2SO4	5 ug/L	4	1 W	93	Pacific Region water	218
2-chlorophenol	H2SO4	5 ug/L	4	1 W	98	Ontario Region water	218
2-chlorophenol	H2SO4	5 ug/L	4	1 W	95	Pacific Region water	218
4-chlorophenol	H2SO4	5 ug/L	4	1 W	97	Pacific Region water	218
2-chlorophenol	H2SO4	5 ug/L	4	1 W	95	Quebec Region water	218
3-chlorophenol	H2SO4	5 ug/L	4	1 W	98	Ontario Region water	218
3-chlorophenol	H2SO4	5 ug/L	4	1 W	94	Quebec Region water	218
4-chlorophenol	H2SO4	5 ug/L	4	1 W	99	Ontario Region water	218
4-chlorophenol	H2SO4	5 ug/L	4	1 W	97	Quebec Region water	218
4-chlorophenol	H2SO4	5 ug/L	4	3 W	96	Ontario Region water	218
4-chlorophenol	H2SO4	5 ug/L	4	3 W	101	Quebec Region water	218
3-chlorophenol	H2SO4	5 ug/L	4	3 W	95	Ontario Region water	218
2-chlorophenol	H2SO4	5 ug/L	4	3 W	101	Quebec Region water	218
2-chlorophenol	H2SO4	5 ug/L	4	3 W	97	Pacific Region water	218
2-chlorophenol	H2SO4	5 ug/L	4	3 W	97	Ontario Region water	218
3-chlorophenol	H2SO4	5 ug/L	4	3 W	100	Quebec Region water	218
4-chlorophenol	H2SO4	5 ug/L	4	3 W	98	Pacific Region water	218
3-chlorophenol	H2SO4	5 ug/L	4	3 W	98	Pacific Region water	218
2-chlorophenol	H2SO4	5 ug/L	4	6 W	97	Pacific Region water	218
3-chlorophenol	H2SO4	5 ug/L	4	6 W	97	Pacific Region water	218
3-chlorophenol	H2SO4	5 ug/L	4	6 W	95	Quebec Region water	218
2-chlorophenol	H2SO4	5 ug/L	4	6 W	96	Ontario Region water	218
4-chlorophenol	H2SO4	5 ug/L	4	6 W	97	Pacific Region water	218
3-chlorophenol	H2SO4	5 ug/L	4	6 W	93	Ontario Region water	218
2-chlorophenol	H2SO4	5 ug/L	4	6 W	98	Quebec Region water	218
4-chlorophenol	H2SO4	5 ug/L	4	6 W	94	Ontario Region water	218
4-chlorophenol	H2SO4	5 ug/L	4	6 W	96	Quebec Region water	218
4-chlorophenol	H2SO4	5 ug/L	4	10 W	98	Ontario Region water	218
4-chlorophenol	H2SO4	5 ug/L	4	10 W	99	Quebec Region water	218
3-chlorophenol	H2SO4	5 ug/L	4	10 W	91	Pacific Region water	218
2-chlorophenol	H2SO4	5 ug/L	4	10 W	92	Pacific Region water	218

Matrix: Water

Class: Acid Extractables - Phenolics

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
3-chlorophenol	H2SO4	5 ug/L	4	10 W	98	Ontario Region water	218
2-chlorophenol	H2SO4	5 ug/L	4	10 W	95	Ontario Region water	218
3-chlorophenol	H2SO4	5 ug/L	4	10 W	100	Quebec Region water	218
4-chlorophenol	H2SO4	5 ug/L	4	10 W	91	Pacific Region water	218
2-chlorophenol	H2SO4	5 ug/L	4	10 W	97	Quebec Region water	218
3-chlorophenol	H2SO4	5 ug/L	4	15 W	92	Ontario Region water	218
2-chlorophenol	H2SO4	5 ug/L	4	15 W	91	Ontario Region water	218
2-chlorophenol	H2SO4	5 ug/L	4	15 W	91	Pacific Region water	218
4-chlorophenol	H2SO4	5 ug/L	4	15 W	95	Pacific Region water	218
3-chlorophenol	H2SO4	5 ug/L	4	15 W	96	Quebec Region water	218
3-chlorophenol	H2SO4	5 ug/L	4	15 W	92	Pacific Region water	218
2-chlorophenol	H2SO4	5 ug/L	4	15 W	94	Quebec Region water	218
4-chlorophenol	H2SO4	5 ug/L	4	15 W	98	Quebec Region water	218
4-chlorophenol	H2SO4	5 ug/L	4	15 W	96	Ontario Region water	218
4-chlorophenol	H2SO4	50 ug/L	4	1 W	94	Quebec Region water	218
4-chlorophenol	H2SO4	50 ug/L	4	1 W	93	Pacific Region water	218
2-chlorophenol	H2SO4	50 ug/L	4	1 W	94	Ontario Region water	218
2-chlorophenol	H2SO4	50 ug/L	4	1 W	94	Pacific Region water	218
2-chlorophenol	H2SO4	50 ug/L	4	1 W	98	Quebec Region water	218
3-chlorophenol	H2SO4	50 ug/L	4	1 W	93	Ontario Region water	218
4-chlorophenol	H2SO4	50 ug/L	4	1 W	95	Ontario Region water	218
3-chlorophenol	H2SO4	50 ug/L	4	1 W	95	Quebec Region water	218
3-chlorophenol	H2SO4	50 ug/L	4	1 W	93	Pacific Region water	218
2-chlorophenol	H2SO4	50 ug/L	4	3 W	101	Ontario Region water	218
4-chlorophenol	H2SO4	50 ug/L	4	3 W	96	Pacific Region water	218
3-chlorophenol	H2SO4	50 ug/L	4	3 W	93	Quebec Region water	218
3-chlorophenol	H2SO4	50 ug/L	4	3 W	97	Pacific Region water	218
4-chlorophenol	H2SO4	50 ug/L	4	3 W	101	Ontario Region water	218
3-chlorophenol	H2SO4	50 ug/L	4	3 W	101	Ontario Region water	218
2-chlorophenol	H2SO4	50 ug/L	4	3 W	94	Quebec Region water	218
2-chlorophenol	H2SO4	50 ug/L	4	3 W	97	Pacific Region water	218
4-chlorophenol	H2SO4	50 ug/L	4	3 W	93	Quebec Region water	218
4-chlorophenol	H2SO4	50 ug/L	4	6 W	95	Quebec Region water	218
2-chlorophenol	H2SO4	50 ug/L	4	6 W	96	Quebec Region water	218
2-chlorophenol	H2SO4	50 ug/L	4	6 W	94	Ontario Region water	218
3-chlorophenol	H2SO4	50 ug/L	4	6 W	95	Quebec Region water	218
3-chlorophenol	H2SO4	50 ug/L	4	6 W	97	Pacific Region water	218
3-chlorophenol	H2SO4	50 ug/L	4	6 W	93	Ontario Region water	218
2-chlorophenol	H2SO4	50 ug/L	4	6 W	98	Pacific Region water	218
4-chlorophenol	H2SO4	50 ug/L	4	6 W	94	Ontario Region water	218
4-chlorophenol	H2SO4	50 ug/L	4	6 W	98	Pacific Region water	218
4-chlorophenol	H2SO4	50 ug/L	4	10 W	92	Pacific Region water	218
3-chlorophenol	H2SO4	50 ug/L	4	10 W	93	Pacific Region water	218
2-chlorophenol	H2SO4	50 ug/L	4	10 W	92	Quebec Region water	218
2-chlorophenol	H2SO4	50 ug/L	4	10 W	93	Pacific Region water	218
2-chlorophenol	H2SO4	50 ug/L	4	10 W	92	Ontario Region water	218
3-chlorophenol	H2SO4	50 ug/L	4	10 W	93	Ontario Region water	218
3-chlorophenol	H2SO4	50 ug/L	4	10 W	93	Quebec Region water	218
4-chlorophenol	H2SO4	50 ug/L	4	10 W	92	Quebec Region water	218

Matrix: Water Class: Acid Extractables - Phenolics

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
4-chlorophenol	H2SO4	50 ug/L	4	10 W	93	Ontario Region water	218
4-chlorophenol	H2SO4	50 ug/L	4	15 W	93	Quebec Region water	218
4-chlorophenol	H2SO4	50 ug/L	4	15 W	95	Ontario Region water	218
4-chlorophenol	H2SO4	50 ug/L	4	15 W	94	Pacific Region water	218
2-chlorophenol	H2SO4	50 ug/L	4	15 W	96	Ontario Region water	218
3-chlorophenol	H2SO4	50 ug/L	4	15 W	96	Ontario Region water	218
3-chlorophenol	H2SO4	50 ug/L	4	15 W	95	Quebec Region water	218
3-chlorophenol	H2SO4	50 ug/L	4	15 W	94	Pacific Region water	218
2-chlorophenol	H2SO4	50 ug/L	4	15 W	94	Quebec Region water	218
2-chlorophenol	H2SO4	50 ug/L	4	15 W	95	Pacific Region water	218
2,4-dichlorophenol	CHLOROFORM		4	3 W	94	Lake Ontario water	218
3,4-dichlorophenol	CHLOROFORM		4	3 W	101	Lake Ontario water	218
3,5-dichlorophenol	CHLOROFORM		4	3 W	94	Lake Ontario water	218
2,3-dichlorophenol	CHLOROFORM		4	3 W	92	Lake Ontario water	218
2,6-dichlorophenol	CHLOROFORM		4	3 W	91	Lake Ontario water	218
2,3-dichlorophenol	CHLOROFORM		4	6 W	86	Lake Ontario water	218
2,6-dichlorophenol	CHLOROFORM		4	6 W	84	Lake Ontario water	218
3,5-dichlorophenol	CHLOROFORM		4	6 W	91	Lake Ontario water	218
2,4-dichlorophenol	CHLOROFORM		4	6 W	86	Lake Ontario water	218
3,4-dichlorophenol	CHLOROFORM		4	6 W	88	Lake Ontario water	218
2,4-dichlorophenol	CHLOROFORM		4	10 W	91	Lake Ontario water	218
3,4-dichlorophenol	CHLOROFORM		4	10 W	99	Lake Ontario water	218
3,5-dichlorophenol	CHLOROFORM		4	10 W	102	Lake Ontario water	218
2,3-dichlorophenol	CHLOROFORM		4	10 W	93	Lake Ontario water	218
2,6-dichlorophenol	CHLOROFORM		4	10 W	87	Lake Ontario water	218
2,6-dichlorophenol	CHLOROFORM		4	15 W	85	Lake Ontario water	218
3,5-dichlorophenol	CHLOROFORM		4	15 W	85	Lake Ontario water	218
2,3-dichlorophenol	CHLOROFORM		4	15 W	84	Lake Ontario water	218
2,4-dichlorophenol	CHLOROFORM		4	15 W	85	Lake Ontario water	218
3,4-dichlorophenol	CHLOROFORM		4	15 W	84	Lake Ontario water	218
2,4-dichlorophenol	CUSO4		4	5 W	86	Lake Ontario water	218
3,4-dichlorophenol	CUSO4		4	5 W	76	Lake Ontario water	218
2,3-dichlorophenol	CUSO4		4	5 W	89	Lake Ontario water	218
3,5-dichlorophenol	CUSO4		4	5 W	87	Lake Ontario water	218
2,6-dichlorophenol	CUSO4		4	5 W	93	Lake Ontario water	218
2,3-dichlorophenol	CUSO4		4	10 W	84	Lake Ontario water	218
2,6-dichlorophenol	CUSO4		4	10 W	87	Lake Ontario water	218
3,5-dichlorophenol	CUSO4		4	10 W	87	Lake Ontario water	218
2,4-dichlorophenol	CUSO4		4	10 W	83	Lake Ontario water	218
3,4-dichlorophenol	CUSO4		4	10 W	76	Lake Ontario water	218
2,4-dichlorophenol	H2SO4		4	3 W	94	Lake Ontario water	218
3,4-dichlorophenol	H2SO4		4	3 W	85	Lake Ontario water	218
2,6-dichlorophenol	H2SO4		4	3 W	102	Lake Ontario water	218
2,3-dichlorophenol	H2SO4		4	3 W	92	Lake Ontario water	218
3,5-dichlorophenol	H2SO4		4	3 W	82	Lake Ontario water	218
2,6-dichlorophenol	H2SO4		4	6 W	91	Lake Ontario water	218
2,3-dichlorophenol	H2SO4		4	6 W	89	Lake Ontario water	218
3,5-dichlorophenol	H2SO4		4	6 W	91	Lake Ontario water	218
3,4-dichlorophenol	H2SO4		4	6 W	91	Lake Ontario water	218

Matrix: Water Class: Acid Extractables - Phenolics

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
2,4-dichlorophenol	H2SO4		4	6 W	90	Lake Ontario water	218
3,4-dichlorophenol	H2SO4		4	10 W	75	Lake Ontario water	218
2,4-dichlorophenol	H2SO4		4	10 W	79	Lake Ontario water	218
2,3-dichlorophenol	H2SO4		4	10 W	78	Lake Ontario water	218
3,5-dichlorophenol	H2SO4		4	10 W	77	Lake Ontario water	218
2,6-dichlorophenol	H2SO4		4	10 W	85	Lake Ontario water	218
3,5-dichlorophenol	H2SO4		4	15 W	81	Lake Ontario water	218
2,3-dichlorophenol	H2SO4		4	15 W	81	Lake Ontario water	218
2,6-dichlorophenol	H2SO4		4	15 W	85	Lake Ontario water	218
3,4-dichlorophenol	H2SO4		4	15 W	80	Lake Ontario water	218
2,4-dichlorophenol	H2SO4		4	15 W	91	Lake Ontario water	218
3,4-dichlorophenol	H2SO4	0.5 ug/L	4	3 W	84	Atlantic Region water	218
2,4-dichlorophenol	H2SO4	0.5 ug/L	4	3 W	93	Ontario Region water	218
2,4-dichlorophenol	H2SO4	0.5 ug/L	4	3 W	90	Western Region water	218
3,4-dichlorophenol	H2SO4	0.5 ug/L	4	3 W	78	Western Region water	218
3,4-dichlorophenol	H2SO4	0.5 ug/L	4	3 W	77	Ontario Region water	218
2,4-dichlorophenol	H2SO4	0.5 ug/L	4	3 W	93	Atlantic Region water	218
2,6-dichlorophenol	H2SO4	0.5 ug/L	4	3 W	90	Atlantic Region water	218
2,6-dichlorophenol	H2SO4	0.5 ug/L	4	3 W	93	Ontario Region water	218
2,3-dichlorophenol	H2SO4	0.5 ug/L	4	3 W	90	Atlantic Region water	218
2,3-dichlorophenol	H2SO4	0.5 ug/L	4	3 W	89	Western Region water	218
3,5-dichlorophenol	H2SO4	0.5 ug/L	4	3 W	91	Ontario Region water	218
3,5-dichlorophenol	H2SO4	0.5 ug/L	4	3 W	91	Atlantic Region water	218
3,5-dichlorophenol	H2SO4	0.5 ug/L	4	3 W	89	Western Region water	218
2,6-dichlorophenol	H2SO4	0.5 ug/L	4	3 W	90	Western Region water	218
2,3-dichlorophenol	H2SO4	0.5 ug/L	4	3 W	92	Ontario Region water	218
2,3-dichlorophenol	H2SO4	0.5 ug/L	4	6 W	86	Western Region water	218
2,3-dichlorophenol	H2SO4	0.5 ug/L	4	6 W	90	Ontario Region water	218
3,5-dichlorophenol	H2SO4	0.5 ug/L	4	6 W	83	Ontario Region water	218
3,5-dichlorophenol	H2SO4	0.5 ug/L	4	6 W	81	Western Region water	218
3,5-dichlorophenol	H2SO4	0.5 ug/L	4	6 W	81	Atlantic Region water	218
2,6-dichlorophenol	H2SO4	0.5 ug/L	4	6 W	91	Western Region water	218
2,3-dichlorophenol	H2SO4	0.5 ug/L	4	6 W	85	Atlantic Region water	218
2,4-dichlorophenol	H2SO4	0.5 ug/L	4	6 W	86	Western Region water	218
3,4-dichlorophenol	H2SO4	0.5 ug/L	4	6 W	78	Atlantic Region water	218
3,4-dichlorophenol	H2SO4	0.5 ug/L	4	6 W	74	Western Region water	218
2,4-dichlorophenol	H2SO4	0.5 ug/L	4	6 W	87	Atlantic Region water	218
3,4-dichlorophenol	H2SO4	0.5 ug/L	4	6 W	80	Ontario Region water	218
2,4-dichlorophenol	H2SO4	0.5 ug/L	4	6 W	90	Ontario Region water	218
2,6-dichlorophenol	H2SO4	0.5 ug/L	4	6 W	91	Atlantic Region water	218
2,6-dichlorophenol	H2SO4	0.5 ug/L	4	6 W	100	Ontario Region water	218
2,6-dichlorophenol	H2SO4	0.5 ug/L	4	10 W	82	Atlantic Region water	218
2,6-dichlorophenol	H2SO4	0.5 ug/L	4	10 W	90	Ontario Region water	218
2,6-dichlorophenol	H2SO4	0.5 ug/L	4	10 W	91	Western Region water	218
3,5-dichlorophenol	H2SO4	0.5 ug/L	4	10 W	83	Ontario Region water	218
2,3-dichlorophenol	H2SO4	0.5 ug/L	4	10 W	86	Western Region water	218
3,5-dichlorophenol	H2SO4	0.5 ug/L	4	10 W	83	Western Region water	218
3,5-dichlorophenol	H2SO4	0.5 ug/L	4	10 W	80	Atlantic Region water	218
2,3-dichlorophenol	H2SO4	0.5 ug/L	4	10 W	85	Ontario Region water	218

Matrix: Water Class: Acid Extractables - Phenolics

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
2,3-dichlorophenol	H2SO4	0.5 ug/L	4	10 W	81	Atlantic Region water	218
3,4-dichlorophenol	H2SO4	0.5 ug/L	4	10 W	65	Western Region water	218
3,4-dichlorophenol	H2SO4	0.5 ug/L	4	10 W	72	Ontario Region water	218
3,4-dichlorophenol	H2SO4	0.5 ug/L	4	10 W	69	Atlantic Region water	218
2,4-dichlorophenol	H2SO4	0.5 ug/L	4	10 W	76	Western Region water	218
2,4-dichlorophenol	H2SO4	0.5 ug/L	4	10 W	91	Ontario Region water	218
2,4-dichlorophenol	H2SO4	0.5 ug/L	4	10 W	80	Atlantic Region water	218
2,4-dichlorophenol	H2SO4	0.5 ug/L	4	15 W	98	Ontario Region water	218
3,4-dichlorophenol	H2SO4	0.5 ug/L	4	15 W	90	Ontario Region water	218
2,4-dichlorophenol	H2SO4	0.5 ug/L	4	15 W	89	Atlantic Region water	218
3,4-dichlorophenol	H2SO4	0.5 ug/L	4	15 W	86	Western Region water	218
2,4-dichlorophenol	H2SO4	0.5 ug/L	4	15 W	98	Western Region water	218
2,6-dichlorophenol	H2SO4	0.5 ug/L	4	15 W	93	Atlantic Region water	218
2,6-dichlorophenol	H2SO4	0.5 ug/L	4	15 W	100	Ontario Region water	218
2,6-dichlorophenol	H2SO4	0.5 ug/L	4	15 W	102	Western Region water	218
3,5-dichlorophenol	H2SO4	0.5 ug/L	4	15 W	93	Western Region water	218
2,3-dichlorophenol	H2SO4	0.5 ug/L	4	15 W	95	Atlantic Region water	218
3,4-dichlorophenol	H2SO4	0.5 ug/L	4	15 W	97	Atlantic Region water	218
2,3-dichlorophenol	H2SO4	0.5 ug/L	4	15 W	98	Ontario Region water	218
3,5-dichlorophenol	H2SO4	0.5 ug/L	4	15 W	95	Ontario Region water	218
3,5-dichlorophenol	H2SO4	0.5 ug/L	4	15 W	95	Atlantic Region water	218
2,3-dichlorophenol	H2SO4	0.5 ug/L	4	15 W	97	Western Region water	218
2,3-dichlorophenol	H2SO4	5 ug/L	4	1 W	95	Quebec Region water	218
3,5-dichlorophenol	H2SO4	5 ug/L	4	1 W	97	Quebec Region water	218
2,3-dichlorophenol	H2SO4	5 ug/L	4	1 W	97	Ontario Region water	218
3,5-dichlorophenol	H2SO4	5 ug/L	4	1 W	96	Ontario Region water	218
2,6-dichlorophenol	H2SO4	5 ug/L	4	1 W	94	Pacific Region water	218
2,3-dichlorophenol	H2SO4	5 ug/L	4	1 W	95	Pacific Region water	218
3,5-dichlorophenol	H2SO4	5 ug/L	4	1 W	95	Pacific Region water	218
3,4-dichlorophenol	H2SO4	5 ug/L	4	1 W	98	Ontario Region water	218
3,4-dichlorophenol	H2SO4	5 ug/L	4	1 W	97	Pacific Region water	218
3,4-dichlorophenol	H2SO4	5 ug/L	4	1 W	95	Quebec Region water	218
2,4-dichlorophenol	H2SO4	5 ug/L	4	1 W	97	Pacific Region water	218
2,4-dichlorophenol	H2SO4	5 ug/L	4	1 W	97	Quebec Region water	218
2,4-dichlorophenol	H2SO4	5 ug/L	4	1 W	99	Ontario Region water	218
2,6-dichlorophenol	H2SO4	5 ug/L	4	1 W	95	Quebec Region water	218
2,6-dichlorophenol	H2SO4	5 ug/L	4	1 W	100	Ontario Region water	218
2,6-dichlorophenol	H2SO4	5 ug/L	4	3 W	100	Ontario Region water	218
2,6-dichlorophenol	H2SO4	5 ug/L	4	3 W	102	Quebec Region water	218
2,3-dichlorophenol	H2SO4	5 ug/L	4	3 W	94	Pacific Region water	218
2,6-dichlorophenol	H2SO4	5 ug/L	4	3 W	100	Pacific Region water	218
3,5-dichlorophenol	H2SO4	5 ug/L	4	3 W	93	Quebec Region water	218
2,3-dichlorophenol	H2SO4	5 ug/L	4	3 W	89	Ontario Region water	218
3,5-dichlorophenol	H2SO4	5 ug/L	4	3 W	100	Pacific Region water	218
2,3-dichlorophenol	H2SO4	5 ug/L	4	3 W	95	Quebec Region water	218
3,5-dichlorophenol	H2SO4	5 ug/L	4	3 W	93	Ontario Region water	218
3,4-dichlorophenol	H2SO4	5 ug/L	4	3 W	96	Pacific Region water	218
3,4-dichlorophenol	H2SO4	5 ug/L	4	3 W	96	Quebec Region water	218
3,4-dichlorophenol	H2SO4	5 ug/L	4	3 W	90	Ontario Region water	218

Matrix: Water

Class: Acid Extractables - Phenolics

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
2,4-dichlorophenol	H2SO4	5 ug/L	4	3 W	93	Ontario Region water	218
2,4-dichlorophenol	H2SO4	5 ug/L	4	3 W	98	Quebec Region water	218
2,4-dichlorophenol	H2SO4	5 ug/L	4	3 W	96	Pacific Region water	218
3,4-dichlorophenol	H2SO4	5 ug/L	4	6 W	83	Ontario Region water	218
3,4-dichlorophenol	H2SO4	5 ug/L	4	6 W	95	Pacific Region water	218
3,4-dichlorophenol	H2SO4	5 ug/L	4	6 W	89	Quebec Region water	218
2,4-dichlorophenol	H2SO4	5 ug/L	4	6 W	94	Pacific Region water	218
2,4-dichlorophenol	H2SO4	5 ug/L	4	6 W	89	Ontario Region water	218
2,4-dichlorophenol	H2SO4	5 ug/L	4	6 W	93	Quebec Region water	218
2,6-dichlorophenol	H2SO4	5 ug/L	4	6 W	100	Quebec Region water	218
2,6-dichlorophenol	H2SO4	5 ug/L	4	6 W	99	Ontario Region water	218
2,3-dichlorophenol	H2SO4	5 ug/L	4	6 W	88	Ontario Region water	218
3,5-dichlorophenol	H2SO4	5 ug/L	4	6 W	95	Pacific Region water	218
3,5-dichlorophenol	H2SO4	5 ug/L	4	6 W	90	Quebec Region water	218
2,6-dichlorophenol	H2SO4	5 ug/L	4	6 W	98	Pacific Region water	218
2,3-dichlorophenol	H2SO4	5 ug/L	4	6 W	92	Quebec Region water	218
2,3-dichlorophenol	H2SO4	5 ug/L	4	6 W	94	Pacific Region water	218
3,5-dichlorophenol	H2SO4	5 ug/L	4	6 W	83	Ontario Region water	218
3,5-dichlorophenol	H2SO4	5 ug/L	4	10 W	98	Quebec Region water	218
2,3-dichlorophenol	H2SO4	5 ug/L	4	10 W	96	Quebec Region water	218
2,3-dichlorophenol	H2SO4	5 ug/L	4	10 W	95	Ontario Region water	218
2,6-dichlorophenol	H2SO4	5 ug/L	4	10 W	91	Pacific Region water	218
3,5-dichlorophenol	H2SO4	5 ug/L	4	10 W	88	Pacific Region water	218
3,5-dichlorophenol	H2SO4	5 ug/L	4	10 W	95	Ontario Region water	218
2,3-dichlorophenol	H2SO4	5 ug/L	4	10 W	91	Pacific Region water	218
2,4-dichlorophenol	H2SO4	5 ug/L	4	10 W	91	Pacific Region water	218
2,4-dichlorophenol	H2SO4	5 ug/L	4	10 W	94	Ontario Region water	218
2,4-dichlorophenol	H2SO4	5 ug/L	4	10 W	96	Quebec Region water	218
3,4-dichlorophenol	H2SO4	5 ug/L	4	10 W	97	Ontario Region water	218
3,4-dichlorophenol	H2SO4	5 ug/L	4	10 W	101	Quebec Region water	218
3,4-dichlorophenol	H2SO4	5 ug/L	4	10 W	90	Pacific Region water	218
2,6-dichlorophenol	H2SO4	5 ug/L	4	10 W	93	Ontario Region water	218
2,6-dichlorophenol	H2SO4	5 ug/L	4	10 W	96	Quebec Region water	218
2,6-dichlorophenol	H2SO4	5 ug/L	4	15 W	94	Quebec Region water	218
2,6-dichlorophenol	H2SO4	5 ug/L	4	15 W	91	Ontario Region water	218
3,5-dichlorophenol	H2SO4	5 ug/L	4	15 W	90	Pacific Region water	218
2,3-dichlorophenol	H2SO4	5 ug/L	4	15 W	91	Ontario Region water	218
3,5-dichlorophenol	H2SO4	5 ug/L	4	15 W	93	Ontario Region water	218
2,3-dichlorophenol	H2SO4	5 ug/L	4	15 W	90	Pacific Region water	218
2,6-dichlorophenol	H2SO4	5 ug/L	4	15 W	92	Pacific Region water	218
2,3-dichlorophenol	H2SO4	5 ug/L	4	15 W	91	Quebec Region water	218
3,5-dichlorophenol	H2SO4	5 ug/L	4	15 W	92	Quebec Region water	218
3,4-dichlorophenol	H2SO4	5 ug/L	4	15 W	89	Ontario Region water	218
2,4-dichlorophenol	H2SO4	5 ug/L	4	15 W	92	Quebec Region water	218
2,4-dichlorophenol	H2SO4	5 ug/L	4	15 W	90	Ontario Region water	218
3,4-dichlorophenol	H2SO4	5 ug/L	4	15 W	93	Pacific Region water	218
2,4-dichlorophenol	H2SO4	5 ug/L	4	15 W	90	Pacific Region water	218
3,4-dichlorophenol	H2SO4	5 ug/L	4	15 W	93	Quebec Region water	218
3,4-dichlorophenol	H2SO4	50 ug/L	4	1 W	94	Pacific Region water	218

Matrix: Water Class: Acid Extractables - Phenolics

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
2,4-dichlorophenol	H2SO4	50 ug/L	4	1 W	92	Pacific Region water	218
2,4-dichlorophenol	H2SO4	50 ug/L	4	1 W	97	Ontario Region water	218
3,4-dichlorophenol	H2SO4	50 ug/L	4	1 W	95	Ontario Region water	218
2,4-dichlorophenol	H2SO4	50 ug/L	4	1 W	94	Quebec Region water	218
3,4-dichlorophenol	H2SO4	50 ug/L	4	1 W	93	Quebec Region water	218
2,6-dichlorophenol	H2SO4	50 ug/L	4	1 W	101	Quebec Region water	218
2,6-dichlorophenol	H2SO4	50 ug/L	4	1 W	95	Ontario Region water	218
3,5-dichlorophenol	H2SO4	50 ug/L	4	1 W	96	Ontario Region water	218
3,5-dichlorophenol	H2SO4	50 ug/L	4	1 W	91	Quebec Region water	218
2,3-dichlorophenol	H2SO4	50 ug/L	4	1 W	97	Ontario Region water	218
2,3-dichlorophenol	H2SO4	50 ug/L	4	1 W	95	Quebec Region water	218
2,3-dichlorophenol	H2SO4	50 ug/L	4	1 W	92	Pacific Region water	218
3,5-dichlorophenol	H2SO4	50 ug/L	4	1 W	91	Pacific Region water	218
2,6-dichlorophenol	H2SO4	50 ug/L	4	1 W	96	Pacific Region water	218
2,3-dichlorophenol	H2SO4	50 ug/L	4	3 W	102	Ontario Region water	218
2,3-dichlorophenol	H2SO4	50 ug/L	4	3 W	99	Pacific Region water	218
3,5-dichlorophenol	H2SO4	50 ug/L	4	3 W	88	Quebec Region water	218
2,6-dichlorophenol	H2SO4	50 ug/L	4	3 W	96	Pacific Region water	218
3,5-dichlorophenol	H2SO4	50 ug/L	4	3 W	97	Pacific Region water	218
2,3-dichlorophenol	H2SO4	50 ug/L	4	3 W	90	Quebec Region water	218
3,5-dichlorophenol	H2SO4	50 ug/L	4	3 W	101	Ontario Region water	218
2,4-dichlorophenol	H2SO4	50 ug/L	4	3 W	96	Pacific Region water	218
3,4-dichlorophenol	H2SO4	50 ug/L	4	3 W	98	Ontario Region water	218
2,4-dichlorophenol	H2SO4	50 ug/L	4	3 W	101	Ontario Region water	218
2,4-dichlorophenol	H2SO4	50 ug/L	4	3 W	89	Quebec Region water	218
3,4-dichlorophenol	H2SO4	50 ug/L	4	3 W	86	Quebec Region water	218
3,4-dichlorophenol	H2SO4	50 ug/L	4	3 W	95	Pacific Region water	218
2,6-dichlorophenol	H2SO4	50 ug/L	4	3 W	99	Ontario Region water	218
2,6-dichlorophenol	H2SO4	50 ug/L	4	3 W	97	Quebec Region water	218
2,6-dichlorophenol	H2SO4	50 ug/L	4	6 W	95	Quebec Region water	218
2,6-dichlorophenol	H2SO4	50 ug/L	4	6 W	94	Ontario Region water	218
3,5-dichlorophenol	H2SO4	50 ug/L	4	6 W	93	Quebec Region water	218
3,5-dichlorophenol	H2SO4	50 ug/L	4	6 W	88	Ontario Region water	218
3,5-dichlorophenol	H2SO4	50 ug/L	4	6 W	91	Pacific Region water	218
2,3-dichlorophenol	H2SO4	50 ug/L	4	6 W	93	Quebec Region water	218
2,3-dichlorophenol	H2SO4	50 ug/L	4	6 W	92	Ontario Region water	218
2,6-dichlorophenol	H2SO4	50 ug/L	4	6 W	97	Pacific Region water	218
2,3-dichlorophenol	H2SO4	50 ug/L	4	6 W	95	Pacific Region water	218
3,4-dichlorophenol	H2SO4	50 ug/L	4	6 W	91	Pacific Region water	218
3,4-dichlorophenol	H2SO4	50 ug/L	4	6 W	90	Ontario Region water	218
2,4-dichlorophenol	H2SO4	50 ug/L	4	6 W	95	Pacific Region water	218
2,4-dichlorophenol	H2SO4	50 ug/L	4	6 W	93	Quebec Region water	218
2,4-dichlorophenol	H2SO4	50 ug/L	4	6 W	89	Ontario Region water	218
3,4-dichlorophenol	H2SO4	50 ug/L	4	6 W	90	Quebec Region water	218
3,4-dichlorophenol	H2SO4	50 ug/L	4	10 W	93	Pacific Region water	218
2,4-dichlorophenol	H2SO4	50 ug/L	4	10 W	91	Quebec Region water	218
3,4-dichlorophenol	H2SO4	50 ug/L	4	10 W	91	Quebec Region water	218
3,4-dichlorophenol	H2SO4	50 ug/L	4	10 W	94	Ontario Region water	218
2,4-dichlorophenol	H2SO4	50 ug/L	4	10 W	92	Ontario Region water	218

Matrix: Water

Class: Acid Extractables - Phenolics

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
2,4-dichlorophenol	H2SO4	50 ug/L	4	10 W	90	Pacific Region water	218
2,6-dichlorophenol	H2SO4	50 ug/L	4	10 W	94	Quebec Region water	218
2,6-dichlorophenol	H2SO4	50 ug/L	4	10 W	92	Ontario Region water	218
2,3-dichlorophenol	H2SO4	50 ug/L	4	10 W	92	Quebec Region water	218
3,5-dichlorophenol	H2SO4	50 ug/L	4	10 W	98	Ontario Region water	218
3,5-dichlorophenol	H2SO4	50 ug/L	4	10 W	93	Pacific Region water	218
2,6-dichlorophenol	H2SO4	50 ug/L	4	10 W	94	Pacific Region water	218
2,3-dichlorophenol	H2SO4	50 ug/L	4	10 W	93	Ontario Region water	218
2,3-dichlorophenol	H2SO4	50 ug/L	4	10 W	90	Pacific Region water	218
3,5-dichlorophenol	H2SO4	50 ug/L	4	10 W	95	Quebec Region water	218
3,5-dichlorophenol	H2SO4	50 ug/L	4	15 W	91	Pacific Region water	218
2,3-dichlorophenol	H2SO4	50 ug/L	4	15 W	92	Ontario Region water	218
3,5-dichlorophenol	H2SO4	50 ug/L	4	15 W	89	Ontario Region water	218
2,3-dichlorophenol	H2SO4	50 ug/L	4	15 W	90	Pacific Region water	218
2,3-dichlorophenol	H2SO4	50 ug/L	4	15 W	92	Quebec Region water	218
2,6-dichlorophenol	H2SO4	50 ug/L	4	15 W	97	Pacific Region water	218
3,5-dichlorophenol	H2SO4	50 ug/L	4	15 W	93	Quebec Region water	218
2,4-dichlorophenol	H2SO4	50 ug/L	4	15 W	93	Ontario Region water	218
3,4-dichlorophenol	H2SO4	50 ug/L	4	15 W	88	Pacific Region water	218
2,4-dichlorophenol	H2SO4	50 ug/L	4	15 W	91	Pacific Region water	218
3,4-dichlorophenol	H2SO4	50 ug/L	4	15 W	92	Ontario Region water	218
2,4-dichlorophenol	H2SO4	50 ug/L	4	15 W	92	Quebec Region water	218
3,4-dichlorophenol	H2SO4	50 ug/L	4	15 W	94	Quebec Region water	218
2,6-dichlorophenol	H2SO4	50 ug/L	4	15 W	97	Quebec Region water	218
2,6-dichlorophenol	H2SO4	50 ug/L	4	15 W	99	Ontario Region water	218
pentachlorophenol	CHLOROFORM		4	3 W	31	Lake Ontario water	218
pentachlorophenol	CHLOROFORM		4	6 W	10	Lake Ontario water	218
pentachlorophenol	CHLOROFORM		4	10 W	6	Lake Ontario water	218
pentachlorophenol	CHLOROFORM		4	15 W	4	Lake Ontario water	218
pentachlorophenol	CUSO4		4	5 W	86	Lake Ontario water	218
pentachlorophenol	CUSO4		4	10 W	81	Lake Ontario water	218
pentachlorophenol	H2SO4		4	3 W	95	Lake Ontario water	218
pentachlorophenol	H2SO4		4	6 W	94	Lake Ontario water	218
pentachlorophenol	H2SO4		4	10 W	96	Lake Ontario water	218
pentachlorophenol	H2SO4		4	15 W	88	Lake Ontario water	218
pentachlorophenol	H2SO4	0.5 ug/L	4	3 W	91	Atlantic Region water	218
pentachlorophenol	H2SO4	0.5 ug/L	4	3 W	91	Ontario Region water	218
pentachlorophenol	H2SO4	0.5 ug/L	4	3 W	84	Western Region water	218
pentachlorophenol	H2SO4	0.5 ug/L	4	6 W	85	Atlantic Region water	218
pentachlorophenol	H2SO4	0.5 ug/L	4	6 W	92	Western Region water	218
pentachlorophenol	H2SO4	0.5 ug/L	4	6 W	106	Ontario Region water	218
pentachlorophenol	H2SO4	0.5 ug/L	4	10 W	93	Atlantic Region water	218
pentachlorophenol	H2SO4	0.5 ug/L	4	10 W	92	Ontario Region water	218
pentachlorophenol	H2SO4	0.5 ug/L	4	10 W	95	Western Region water	218
pentachlorophenol	H2SO4	0.5 ug/L	4	15 W	97	Ontario Region water	218
pentachlorophenol	H2SO4	0.5 ug/L	4	15 W	71	Atlantic Region water	218
pentachlorophenol	H2SO4	0.5 ug/L	4	15 W	85	Western Region water	218
pentachlorophenol	H2SO4	5 ug/L	4	1 W	98	Pacific Region water	218
pentachlorophenol	H2SO4	5 ug/L	4	1 W	92	Quebec Region water	218

Matrix: Water Class: Acid Extractables - Phenolics

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
pentachlorophenol	H2SO4	5 ug/L	4	1 W	97	Ontario Region water	218
pentachlorophenol	H2SO4	5 ug/L	4	3 W	89	Pacific Region water	218
pentachlorophenol	H2SO4	5 ug/L	4	3 W	98	Ontario Region water	218
pentachlorophenol	H2SO4	5 ug/L	4	3 W	93	Quebec Region water	218
pentachlorophenol	H2SO4	5 ug/L	4	6 W	102	Pacific Region water	218
pentachlorophenol	H2SO4	5 ug/L	4	6 W	104	Quebec Region water	218
pentachlorophenol	H2SO4	5 ug/L	4	6 W	103	Ontario Region water	218
pentachlorophenol	H2SO4	5 ug/L	4	10 W	101	Quebec Region water	218
pentachlorophenol	H2SO4	5 ug/L	4	10 W	101	Ontario Region water	218
pentachlorophenol	H2SO4	5 ug/L	4	10 W	97	Pacific Region water	218
pentachlorophenol	H2SO4	5 ug/L	4	15 W	98	Ontario Region water	218
pentachlorophenol	H2SO4	5 ug/L	4	15 W	99	Pacific Region water	218
pentachlorophenol	H2SO4	5 ug/L	4	15 W	103	Quebec Region water	218
pentachlorophenol	H2SO4	50 ug/L	4	1 W	103	Ontario Region water	218
pentachlorophenol	H2SO4	50 ug/L	4	1 W	90	Quebec Region water	218
pentachlorophenol	H2SO4	50 ug/L	4	1 W	97	Pacific Region water	218
pentachlorophenol	H2SO4	50 ug/L	4	3 W	113	Quebec Region water	218
pentachlorophenol	H2SO4	50 ug/L	4	3 W	96	Pacific Region water	218
pentachlorophenol	H2SO4	50 ug/L	4	3 W	91	Ontario Region water	218
pentachlorophenol	H2SO4	50 ug/L	4	6 W	107	Qucbec Region water	218
pentachlorophenol	H2SO4	50 ug/L	4	6 W	106	Ontario Region water	218
pentachlorophenol	H2SO4	50 ug/L	4	6 W	97	Pacific Region water	218
pentachlorophenol	H2SO4	50 ug/L	4	10 W	91	Ontario Region water	218
pentachlorophenol	H2SO4	50 ug/L	4	10 W	93	Pacific Region water	218
pentachlorophenol	H2SO4	50 ug/L	4	10 W	95	Quebec Region water	218
pentachlorophenol	H2SO4	50 ug/L	4	15 W	99	Ontario Region water	218
pentachlorophenol	H2SO4	50 ug/L	4	15 W	97	Pacific Region water	218
pentachlorophenol	H2SO4	50 ug/L	4	15 W	104	Quebec Region water	218
2,3,4,5-tetrachlorophenol	CHLOROFORM		4	3 W	76	Lake Ontario water	218
2,3,4,5-tetrachlorophenol	CHLOROFORM		4	6 W	82	Lake Ontario water	218
2,3,4,5-tetrachlorophenol	CHLOROFORM		4	10 W	82	Lake Ontario water	218
2,3,4,5-tetrachlorophenol	CHLOROFORM		4	15 W	61	Lake Ontario water	218
2,3,4,5-tetrachlorophenol	CUSO4		4	5 W	93	Lake Ontario water	218
2,3,4,5-tetrachlorophenol	CUSO4		4	10 W	89	Lake Ontario water	218
2,3,4,5-tetrachlorophenol	H2SO4		4	3 W	65	Lake Ontario water	218
2,3,4,5-tetrachlorophenol	H2SO4		4	6 W	96	Lake Ontario water	218
2,3,4,5-tetrachlorophenol	H2SO4		4	10 W	76	Lake Ontario water	218
2,3,4,5-tetrachlorophenol	H2SO4		4	15 W	72	Lake Ontario water	218
2,3,4,5-tetrachlorophenol	H2SO4	0.5 ug/L	4	3 W	81	Western Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	0.5 ug/L	4	3 W	91	Ontario Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	0.5 ug/L	4	3 W	85	Atlantic Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	0.5 ug/L	4	6 W	70	Atlantic Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	0.5 ug/L	4	6 W	79	Western Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	0.5 ug/L	4	6 W	70	Ontario Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	0.5 ug/L	4	10 W	82	Western Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	0.5 ug/L	4	10 W	73	Ontario Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	0.5 ug/L	4	10 W	75	Atlantic Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	0.5 ug/L	4	15 W	98	Atlantic Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	0.5 ug/L	4	15 W	89	Ontario Region water	218

Matrix: Water Class: Acid Extractables - Phenolics

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
2,3,4,5-tetrachlorophenol	H2SO4	0.5 ug/L	4	15 W	84	Western Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	5 ug/L	4	1 W	92	Ontario Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	5 ug/L	4	1 W	85	Pacific Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	5 ug/L	4	1 W	96	Quebec Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	5 ug/L	4	3 W	82	Quebec Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	5 ug/L	4	3 W	102	Ontario Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	5 ug/L	4	3 W	93	Pacific Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	5 ug/L	4	6 W	87	Pacific Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	5 ug/L	4	6 W	100	Ontario Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	5 ug/L	4	6 W	87	Quebec Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	5 ug/L	4	10 W	91	Quebec Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	5 ug/L	4	10 W	77	Pacific Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	5 ug/L	4	10 W	88	Ontario Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	5 ug/L	4	15 W	89	Pacific Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	5 ug/L	4	15 W	96	Ontario Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	5 ug/L	4	15 W	93	Quebec Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	50 ug/L	4	1 W	95	Pacific Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	50 ug/L	4	1 W	89	Quebec Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	50 ug/L	4	1 W	85	Ontario Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	50 ug/L	4	3 W	88	Pacific Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	50 ug/L	4	3 W	102	Ontario Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	50 ug/L	4	3 W	85	Quebec Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	50 ug/L	4	6 W	95	Quebec Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	50 ug/L	4	6 W	96	Pacific Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	50 ug/L	4	6 W	87	Ontario Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	50 ug/L	4	10 W	91	Ontario Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	50 ug/L	4	10 W	106	Pacific Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	50 ug/L	4	10 W	93	Quebec Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	50 ug/L	4	15 W	94	Quebec Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	50 ug/L	4	15 W	88	Ontario Region water	218
2,3,4,5-tetrachlorophenol	H2SO4	50 ug/L	4	15 W	95	Pacific Region water	218
2,3,4,6-tetrachlorophenol	CHLOROFORM		4	3 W	88	Lake Ontario water	218
2,3,4,6-tetrachlorophenol	CHLOROFORM		4	6 W	86	Lake Ontario water	218
2,3,4,6-tetrachlorophenol	CHLOROFORM		4	10 W	82	Lake Ontario water	218
2,3,4,6-tetrachlorophenol	CHLOROFORM		4	15 W	78	Lake Ontario water	218
2,3,4,6-tetrachlorophenol	CUSO4		4	5 W	91	Lake Ontario water	218
2,3,4,6-tetrachlorophenol	CUSO4		4	10 W	88	Lake Ontario water	218
2,3,4,6-tetrachlorophenol	H2SO4		4	3 W	101	Lake Ontario water	218
2,3,4,6-tetrachlorophenol	H2SO4		4	6 W	84	Lake Ontario water	218
2,3,4,6-tetrachlorophenol	H2SO4		4	10 W	92	Lake Ontario water	218
2,3,4,6-tetrachlorophenol	H2SO4		4	15 W	88	Lake Ontario water	218
2,3,4,6-tetrachlorophenol	H2SO4	0.5 ug/L	4	3 W	94	Atlantic Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	0.5 ug/L	4	3 W	92	Ontario Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	0.5 ug/L	4	3 W	89	Western Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	0.5 ug/L	4	6 W	82	Atlantic Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	0.5 ug/L	4	6 W	90	Western Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	0.5 ug/L	4	6 W	108	Ontario Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	0.5 ug/L	4	10 W	89	Atlantic Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	0.5 ug/L	4	10 W	91	Ontario Region water	218

Matrix: Water　　　　　　Class: Acid Extractables - Phenolics

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
2,3,4,6-tetrachlorophenol	H2SO4	0.5 ug/L	4	10 W	93	Western Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	0.5 ug/L	4	15 W	89	Western Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	0.5 ug/L	4	15 W	82	Atlantic Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	0.5 ug/L	4	15 W	98	Ontario Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	5 ug/L	4	1 W	98	Pacific Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	5 ug/L	4	1 W	96	Quebec Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	5 ug/L	4	1 W	97	Ontario Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	5 ug/L	4	3 W	97	Quebec Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	5 ug/L	4	3 W	96	Pacific Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	5 ug/L	4	3 W	99	Ontario Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	5 ug/L	4	6 W	102	Quebec Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	5 ug/L	4	6 W	101	Pacific Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	5 ug/L	4	6 W	99	Ontario Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	5 ug/L	4	10 W	98	Quebec Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	5 ug/L	4	10 W	97	Ontario Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	5 ug/L	4	10 W	95	Pacific Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	5 ug/L	4	15 W	95	Ontario Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	5 ug/L	4	15 W	98	Quebec Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	5 ug/L	4	15 W	96	Pacific Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	50 ug/L	4	1 W	94	Quebec Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	50 ug/L	4	1 W	93	Pacific Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	50 ug/L	4	1 W	94	Ontario Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	50 ug/L	4	3 W	99	Ontario Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	50 ug/L	4	3 W	101	Quebec Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	50 ug/L	4	3 W	94	Pacific Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	50 ug/L	4	6 W	101	Ontario Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	50 ug/L	4	6 W	99	Quebec Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	50 ug/L	4	6 W	99	Pacific Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	50 ug/L	4	10 W	95	Quebec Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	50 ug/L	4	10 W	93	Ontario Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	50 ug/L	4	10 W	95	Pacific Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	50 ug/L	4	15 W	98	Ontario Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	50 ug/L	4	15 W	93	Pacific Region water	218
2,3,4,6-tetrachlorophenol	H2SO4	50 ug/L	4	15 W	100	Quebec Region water	218
2,3,5,6-tetrachlorophenol	CHLOROFORM		4	3 W	76	Lake Ontario water	218
2,3,5,6-tetrachlorophenol	CHLOROFORM		4	6 W	80	Lake Ontario water	218
2,3,5,6-tetrachlorophenol	CHLOROFORM		4	10 W	57	Lake Ontario water	218
2,3,5,6-tetrachlorophenol	CHLOROFORM		4	15 W	56	Lake Ontario water	218
2,3,5,6-tetrachlorophenol	CUSO4		4	5 W	91	Lake Ontario water	218
2,3,5,6-tetrachlorophenol	CUSO4		4	10 W	86	Lake Ontario water	218
2,3,5,6-tetrachlorophenol	H2SO4		4	3 W	106	Lake Ontario water	218
2,3,5,6-tetrachlorophenol	H2SO4		4	6 W	83	Lake Ontario water	218
2,3,5,6-tetrachlorophenol	H2SO4		4	10 W	98	Lake Ontario water	218
2,3,5,6-tetrachlorophenol	H2SO4		4	15 W	87	Lake Ontario water	218
2,3,5,6-tetrachlorophenol	H2SO4	0.5 ug/L	4	3 W	97	Atlantic Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	0.5 ug/L	4	3 W	94	Western Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	0.5 ug/L	4	3 W	92	Ontario Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	0.5 ug/L	4	6 W	111	Ontario Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	0.5 ug/L	4	6 W	94	Western Region water	218

Matrix: Water Class: Acid Extractables - Phenolics

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
2,3,5,6-tetrachlorophenol	H2SO4	0.5 ug/L	4	6 W	81	Atlantic Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	0.5 ug/L	4	10 W	93	Atlantic Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	0.5 ug/L	4	10 W	96	Western Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	0.5 ug/L	4	10 W	92	Ontario Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	0.5 ug/L	4	15 W	82	Western Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	0.5 ug/L	4	15 W	95	Ontario Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	0.5 ug/L	4	15 W	75	Atlantic Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	5 ug/L	4	1 W	97	Ontario Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	5 ug/L	4	1 W	101	Pacific Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	5 ug/L	4	1 W	87	Quebec Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	5 ug/L	4	3 W	98	Ontario Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	5 ug/L	4	3 W	87	Pacific Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	5 ug/L	4	3 W	92	Quebec Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	5 ug/L	4	6 W	101	Pacific Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	5 ug/L	4	6 W	107	Quebec Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	5 ug/L	4	6 W	105	Ontario Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	5 ug/L	4	10 W	101	Quebec Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	5 ug/L	4	10 W	95	Pacific Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	5 ug/L	4	10 W	99	Ontario Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	5 ug/L	4	15 W	96	Ontario Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	5 ug/L	4	15 W	102	Quebec Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	5 ug/L	4	15 W	97	Pacific Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	50 ug/L	4	1 W	101	Ontario Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	50 ug/L	4	1 W	94	Pacific Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	50 ug/L	4	1 W	80	Quebec Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	50 ug/L	4	3 W	111	Quebec Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	50 ug/L	4	3 W	95	Pacific Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	50 ug/L	4	3 W	89	Ontario Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	50 ug/L	4	6 W	96	Pacific Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	50 ug/L	4	6 W	105	Quebec Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	50 ug/L	4	6 W	104	Ontario Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	50 ug/L	4	10 W	90	Ontario Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	50 ug/L	4	10 W	93	Quebec Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	50 ug/L	4	10 W	93	Pacific Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	50 ug/L	4	15 W	98	Pacific Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	50 ug/L	4	15 W	101	Ontario Region water	218
2,3,5,6-tetrachlorophenol	H2SO4	50 ug/L	4	15 W	104	Quebec Region water	218
2,3,4-trichlorophenol	CHLOROFORM		4	3 W	90	Lake Ontario water	218
2,3,4-trichlorophenol	CHLOROFORM		4	6 W	90	Lake Ontario water	218
2,3,4-trichlorophenol	CHLOROFORM		4	10 W	99	Lake Ontario water	218
2,3,4-trichlorophenol	CHLOROFORM		4	15 W	82	Lake Ontario water	218
2,3,4-trichlorophenol	CUSO4		4	5 W	88	Lake Ontario water	218
2,3,4-trichlorophenol	CUSO4		4	10 W	89	Lake Ontario water	218
2,3,4-trichlorophenol	H2SO4		4	3 W	82	Lake Ontario water	218
2,3,4-trichlorophenol	H2SO4		4	6 W	90	Lake Ontario water	218
2,3,4-trichlorophenol	H2SO4		4	10 W	76	Lake Ontario water	218
2,3,4-trichlorophenol	H2SO4		4	15 W	79	Lake Ontario water	218
2,3,4-trichlorophenol	H2SO4	0.5 ug/L	4	3 W	89	Western Region water	218
2,3,4-trichlorophenol	H2SO4	0.5 ug/L	4	3 W	89	Atlantic Region water	218

Matrix: Water Class: Acid Extractables - Phenolics

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
2,3,4-trichlorophenol	H2SO4	0.5 ug/L	4	3 W	89	Ontario Region water	218
2,3,4-trichlorophenol	H2SO4	0.5 ug/L	4	6 W	83	Atlantic Region water	218
2,3,4-trichlorophenol	H2SO4	0.5 ug/L	4	6 W	88	Ontario Region water	218
2,3,4-trichlorophenol	H2SO4	0.5 ug/L	4	6 W	86	Western Region water	218
2,3,4-trichlorophenol	H2SO4	0.5 ug/L	4	10 W	78	Atlantic Region water	218
2,3,4-trichlorophenol	H2SO4	0.5 ug/L	4	10 W	81	Ontario Region water	218
2,3,4-trichlorophenol	H2SO4	0.5 ug/L	4	10 W	78	Western Region water	218
2,3,4-trichlorophenol	H2SO4	0.5 ug/L	4	15 W	99	Atlantic Region water	218
2,3,4-trichlorophenol	H2SO4	0.5 ug/L	4	15 W	92	Ontario Region water	218
2,3,4-trichlorophenol	H2SO4	0.5 ug/L	4	15 W	98	Western Region water	218
2,3,4-trichlorophenol	H2SO4	5 ug/L	4	1 W	94	Ontario Region water	218
2,3,4-trichlorophenol	H2SO4	5 ug/L	4	1 W	96	Quebec Region water	218
2,3,4-trichlorophenol	H2SO4	5 ug/L	4	1 W	94	Pacific Region water	218
2,3,4-trichlorophenol	H2SO4	5 ug/L	4	3 W	85	Quebec Region water	218
2,3,4-trichlorophenol	H2SO4	5 ug/L	4	3 W	94	Pacific Region water	218
2,3,4-trichlorophenol	H2SO4	5 ug/L	4	3 W	88	Ontario Region water	218
2,3,4-trichlorophenol	H2SO4	5 ug/L	4	6 W	81	Ontario Region water	218
2,3,4-trichlorophenol	H2SO4	5 ug/L	4	6 W	87	Quebec Region water	218
2,3,4-trichlorophenol	H2SO4	5 ug/L	4	6 W	92	Pacific Region water	218
2,3,4-trichlorophenol	H2SO4	5 ug/L	4	10 W	89	Pacific Region water	218
2,3,4-trichlorophenol	H2SO4	5 ug/L	4	10 W	99	Quebec Region water	218
2,3,4-trichlorophenol	H2SO4	5 ug/L	4	10 W	96	Ontario Region water	218
2,3,4-trichlorophenol	H2SO4	5 ug/L	4	15 W	94	Ontario Region water	218
2,3,4-trichlorophenol	H2SO4	5 ug/L	4	15 W	95	Quebec Region water	218
2,3,4-trichlorophenol	H2SO4	5 ug/L	4	15 W	93	Pacific Region water	218
2,3,4-trichlorophenol	H2SO4	50 ug/L	4	1 W	94	Ontario Region water	218
2,3,4-trichlorophenol	H2SO4	50 ug/L	4	1 W	92	Pacific Region water	218
2,3,4-trichlorophenol	H2SO4	50 ug/L	4	1 W	93	Quebec Region water	218
2,3,4-trichlorophenol	H2SO4	50 ug/L	4	3 W	94	Pacific Region water	218
2,3,4-trichlorophenol	H2SO4	50 ug/L	4	3 W	85	Quebec Region water	218
2,3,4-trichlorophenol	H2SO4	50 ug/L	4	3 W	99	Ontario Region water	218
2,3,4-trichlorophenol	H2SO4	50 ug/L	4	6 W	86	Ontario Region water	218
2,3,4-trichlorophenol	H2SO4	50 ug/L	4	6 W	90	Quebec Region water	218
2,3,4-trichlorophenol	H2SO4	50 ug/L	4	6 W	93	Pacific Region water	218
2,3,4-trichlorophenol	H2SO4	50 ug/L	4	10 W	93	Quebec Region water	218
2,3,4-trichlorophenol	H2SO4	50 ug/L	4	10 W	90	Ontario Region water	218
2,3,4-trichlorophenol	H2SO4	50 ug/L	4	10 W	94	Pacific Region water	218
2,3,4-trichlorophenol	H2SO4	50 ug/L	4	15 W	94	Quebec Region water	218
2,3,4-trichlorophenol	H2SO4	50 ug/L	4	15 W	88	Ontario Region water	218
2,3,4-trichlorophenol	H2SO4	50 ug/L	4	15 W	89	Pacific Region water	218
2,3,5-trichlorophenol	CHLOROFORM		4	3 W	90	Lake Ontario water	218
2,3,5-trichlorophenol	CHLOROFORM		4	6 W	93	Lake Ontario water	218
2,3,5-trichlorophenol	CHLOROFORM		4	10 W	96	Lake Ontario water	218
2,3,5-trichlorophenol	CHLOROFORM		4	15 W	81	Lake Ontario water	218
2,3,5-trichlorophenol	CUSO4		4	5 W	96	Lake Ontario water	218
2,3,5-trichlorophenol	CUSO4		4	10 W	92	Lake Ontario water	218
2,3,5-trichlorophenol	H2SO4		4	3 W	85	Lake Ontario water	218
2,3,5-trichlorophenol	H2SO4		4	6 W	92	Lake Ontario water	218
2,3,5-trichlorophenol	H2SO4		4	10 W	77	Lake Ontario water	218

Matrix: Water Class: Acid Extractables - Phenolics

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
2,3,5-trichlorophenol	H2SO4		4	15 W	77	Lake Ontario water	218
2,3,5-trichlorophenol	H2SO4	0.5 ug/L	4	3 W	86	Atlantic Region water	218
2,3,5-trichlorophenol	H2SO4	0.5 ug/L	4	3 W	83	Western Region water	218
2,3,5-trichlorophenol	H2SO4	0.5 ug/L	4	3 W	89	Ontario Region water	218
2,3,5-trichlorophenol	H2SO4	0.5 ug/L	4	6 W	76	Atlantic Region water	218
2,3,5-trichlorophenol	H2SO4	0.5 ug/L	4	6 W	85	Ontario Region water	218
2,3,5-trichlorophenol	H2SO4	0.5 ug/L	4	6 W	82	Western Region water	218
2,3,5-trichlorophenol	H2SO4	0.5 ug/L	4	10 W	77	Ontario Region water	218
2,3,5-trichlorophenol	H2SO4	0.5 ug/L	4	10 W	77	Atlantic Region water	218
2,3,5-trichlorophenol	H2SO4	0.5 ug/L	4	10 W	83	Western Region water	218
2,3,5-trichlorophenol	H2SO4	0.5 ug/L	4	15 W	90	Western Region water	218
2,3,5-trichlorophenol	H2SO4	0.5 ug/L	4	15 W	98	Atlantic Region water	218
2,3,5-trichlorophenol	H2SO4	0.5 ug/L	4	15 W	92	Ontario Region water	218
2,3,5-trichlorophenol	H2SO4	5 ug/L	4	1 W	95	Quebec Region water	218
2,3,5-trichlorophenol	H2SO4	5 ug/L	4	1 W	94	Ontario Region water	218
2,3,5-trichlorophenol	H2SO4	5 ug/L	4	1 W	89	Pacific Region water	218
2,3,5-trichlorophenol	H2SO4	5 ug/L	4	3 W	85	Quebec Region water	218
2,3,5-trichlorophenol	H2SO4	5 ug/L	4	3 W	91	Ontario Region water	218
2,3,5-trichlorophenol	H2SO4	5 ug/L	4	3 W	101	Pacific Region water	218
2,3,5-trichlorophenol	H2SO4	5 ug/L	4	6 W	90	Quebec Region water	218
2,3,5-trichlorophenol	H2SO4	5 ug/L	4	6 W	97	Pacific Region water	218
2,3,5-trichlorophenol	H2SO4	5 ug/L	4	6 W	63	Ontario Region water	218
2,3,5-trichlorophenol	H2SO4	5 ug/L	4	10 W	84	Pacific Region water	218
2,3,5-trichlorophenol	H2SO4	5 ug/L	4	10 W	90	Ontario Region water	218
2,3,5-trichlorophenol	H2SO4	5 ug/L	4	10 W	94	Quebec Region water	218
2,3,5-trichlorophenol	H2SO4	5 ug/L	4	15 W	94	Ontario Region water	218
2,3,5-trichlorophenol	H2SO4	5 ug/L	4	15 W	91	Quebec Region water	218
2,3,5-trichlorophenol	H2SO4	5 ug/L	4	15 W	88	Pacific Region water	218
2,3,5-trichlorophenol	H2SO4	50 ug/L	4	1 W	94	Quebec Region water	218
2,3,5-trichlorophenol	H2SO4	50 ug/L	4	1 W	92	Ontario Region water	218
2,3,5-trichlorophenol	H2SO4	50 ug/L	4	1 W	95	Pacific Region water	218
2,3,5-trichlorophenol	H2SO4	50 ug/L	4	3 W	99	Ontario Region water	218
2,3,5-trichlorophenol	H2SO4	50 ug/L	4	3 W	90	Quebec Region water	218
2,3,5-trichlorophenol	H2SO4	50 ug/L	4	3 W	91	Pacific Region water	218
2,3,5-trichlorophenol	H2SO4	50 ug/L	4	6 W	100	Pacific Region water	218
2,3,5-trichlorophenol	H2SO4	50 ug/L	4	6 W	86	Ontario Region water	218
2,3,5-trichlorophenol	H2SO4	50 ug/L	4	6 W	90	Quebec Region water	218
2,3,5-trichlorophenol	H2SO4	50 ug/L	4	10 W	99	Quebec Region water	218
2,3,5-trichlorophenol	H2SO4	50 ug/L	4	10 W	91	Ontario Region water	218
2,3,5-trichlorophenol	H2SO4	50 ug/L	4	10 W	103	Pacific Region water	218
2,3,5-trichlorophenol	H2SO4	50 ug/L	4	15 W	87	Ontario Region water	218
2,3,5-trichlorophenol	H2SO4	50 ug/L	4	15 W	91	Pacific Region water	218
2,3,5-trichlorophenol	H2SO4	50 ug/L	4	15 W	94	Quebec Region water	218
2,3,6-trichlorophenol	CHLOROFORM		4	3 W	87	Lake Ontario water	218
2,3,6-trichlorophenol	CHLOROFORM		4	6 W	94	Lake Ontario water	218
2,3,6-trichlorophenol	CHLOROFORM		4	10 W	83	Lake Ontario water	218
2,3,6-trichlorophenol	CHLOROFORM		4	15 W	64	Lake Ontario water	218
2,3,6-trichlorophenol	CUSO4		4	5 W	96	Lake Ontario water	218
2,3,6-trichlorophenol	CUSO4		4	10 W	68	Lake Ontario water	218

Matrix: Water Class: Acid Extractables - Phenolics

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
2,3,6-trichlorophenol	H2SO4		4	3 W	105	Lake Ontario water	218
2,3,6-trichlorophenol	H2SO4		4	6 W	89	Lake Ontario water	218
2,3,6-trichlorophenol	H2SO4		4	10 W	88	Lake Ontario water	218
2,3,6-trichlorophenol	H2SO4		4	15 W	86	Lake Ontario water	218
2,3,6-trichlorophenol	H2SO4	0.5 ug/L	4	3 W	94	Atlantic Region water	218
2,3,6-trichlorophenol	H2SO4	0.5 ug/L	4	3 W	91	Ontario Region water	218
2,3,6-trichlorophenol	H2SO4	0.5 ug/L	4	3 W	90	Western Region water	218
2,3,6-trichlorophenol	H2SO4	0.5 ug/L	4	6 W	81	Atlantic Region water	218
2,3,6-trichlorophenol	H2SO4	0.5 ug/L	4	6 W	91	Western Region water	218
2,3,6-trichlorophenol	H2SO4	0.5 ug/L	4	6 W	105	Ontario Region water	218
2,3,6-trichlorophenol	H2SO4	0.5 ug/L	4	10 W	84	Atlantic Region water	218
2,3,6-trichlorophenol	H2SO4	0.5 ug/L	4	10 W	89	Ontario Region water	218
2,3,6-trichlorophenol	H2SO4	0.5 ug/L	4	10 W	90	Western Region water	218
2,3,6-trichlorophenol	H2SO4	0.5 ug/L	4	15 W	94	Western Region water	218
2,3,6-trichlorophenol	H2SO4	0.5 ug/L	4	15 W	85	Atlantic Region water	218
2,3,6-trichlorophenol	H2SO4	0.5 ug/L	4	15 W	95	Ontario Region water	218
2,3,6-trichlorophenol	H2SO4	5 ug/L	4	1 W	102	Pacific Region water	218
2,3,6-trichlorophenol	H2SO4	5 ug/L	4	1 W	98	Quebec Region water	218
2,3,6-trichlorophenol	H2SO4	5 ug/L	4	1 W	99	Ontario Region water	218
2,3,6-trichlorophenol	H2SO4	5 ug/L	4	3 W	102	Quebec Region water	218
2,3,6-trichlorophenol	H2SO4	5 ug/L	4	3 W	98	Pacific Region water	218
2,3,6-trichlorophenol	H2SO4	5 ug/L	4	3 W	98	Ontario Region water	218
2,3,6-trichlorophenol	H2SO4	5 ug/L	4	6 W	103	Quebec Region water	218
2,3,6-trichlorophenol	H2SO4	5 ug/L	4	6 W	99	Pacific Region water	218
2,3,6-trichlorophenol	H2SO4	5 ug/L	4	6 W	101	Ontario Region water	218
2,3,6-trichlorophenol	H2SO4	5 ug/L	4	10 W	96	Quebec Region water	218
2,3,6-trichlorophenol	H2SO4	5 ug/L	4	10 W	94	Ontario Region water	218
2,3,6-trichlorophenol	H2SO4	5 ug/L	4	10 W	92	Pacific Region water	218
2,3,6-trichlorophenol	H2SO4	5 ug/L	4	15 W	93	Ontario Region water	218
2,3,6-trichlorophenol	H2SO4	5 ug/L	4	15 W	96	Quebec Region water	218
2,3,6-trichlorophenol	H2SO4	5 ug/L	4	15 W	94	Pacific Region water	218
2,3,6-trichlorophenol	H2SO4	50 ug/L	4	1 W	96	Quebec Region water	218
2,3,6-trichlorophenol	H2SO4	50 ug/L	4	1 W	96	Pacific Region water	218
2,3,6-trichlorophenol	H2SO4	50 ug/L	4	1 W	97	Ontario Region water	218
2,3,6-trichlorophenol	H2SO4	50 ug/L	4	3 W	98	Quebec Region water	218
2,3,6-trichlorophenol	H2SO4	50 ug/L	4	3 W	98	Ontario Region water	218
2,3,6-trichlorophenol	H2SO4	50 ug/L	4	3 W	94	Pacific Region water	218
2,3,6-trichlorophenol	H2SO4	50 ug/L	4	6 W	98	Ontario Region water	218
2,3,6-trichlorophenol	H2SO4	50 ug/L	4	6 W	98	Quebec Region water	218
2,3,6-trichlorophenol	H2SO4	50 ug/L	4	6 W	100	Pacific Region water	218
2,3,6-trichlorophenol	H2SO4	50 ug/L	4	10 W	94	Pacific Region water	218
2,3,6-trichlorophenol	H2SO4	50 ug/L	4	10 W	93	Ontario Region water	218
2,3,6-trichlorophenol	H2SO4	50 ug/L	4	10 W	95	Quebec Region water	218
2,3,6-trichlorophenol	H2SO4	50 ug/L	4	15 W	95	Pacific Region water	218
2,3,6-trichlorophenol	H2SO4	50 ug/L	4	15 W	99	Ontario Region water	218
2,3,6-trichlorophenol	H2SO4	50 ug/L	4	15 W	99	Quebec Region water	218
2,4,5-trichlorophenol	CHLOROFORM		4	3 W	89	Lake Ontario water	218
2,4,5-trichlorophenol	CHLOROFORM		4	6 W	95	Laka Ontario water	218
2,4,5-trichlorophenol	CHLOROFORM		4	10 W	99	Lake Ontario water	218

Matrix: Water Class: Acid Extractables - Phenolics

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
2,4,5-trichlorophenol	CHLOROFORM		4	15 W	83	Lake Ontario water	218
2,4,5-trichlorophenol	CUSO4		4	5 W	92	Lake Ontario water	218
2,4,5-trichlorophenol	CUSO4		4	10 W	91	Lake Ontario water	218
2,4,5-trichlorophenol	H2SO4		4	3 W	82	Lake Ontario water	218
2,4,5-trichlorophenol	H2SO4		4	6 W	92	Lake Ontario water	218
2,4,5-trichlorophenol	H2SO4		4	10 W	78	Lake Ontario water	218
2,4,5-trichlorophenol	H2SO4		4	15 W	78	Lake Ontario water	218
2,4,5-trichlorophenol	H2SO4	0.5 ug/L	4	3 W	91	Ontario Region water	218
2,4,5-trichlorophenol	H2SO4	0.5 ug/L	4	3 W	86	Western Region water	218
2,4,5-trichlorophenol	H2SO4	0.5 ug/L	4	3 W	89	Atlantic Region water	218
2,4,5-trichlorophenol	H2SO4	0.5 ug/L	4	6 W	79	Atlantic Region water	218
2,4,5-trichlorophenol	H2SO4	0.5 ug/L	4	6 W	85	Western Region water	218
2,4,5-trichlorophenol	H2SO4	0.5 ug/L	4	6 W	87	Ontario Region water	218
2,4,5-trichlorophenol	H2SO4	0.5 ug/L	4	10 W	83	Ontario Region water	218
2,4,5-trichlorophenol	H2SO4	0.5 ug/L	4	10 W	75	Atlantic Region water	218
2,4,5-trichlorophenol	H2SO4	0.5 ug/L	4	10 W	81	Western Region water	218
2,4,5-trichlorophenol	H2SO4	0.5 ug/L	4	15 W	83	Ontario Region water	218
2,4,5-trichlorophenol	H2SO4	0.5 ug/L	4	15 W	103	Atlantic Region water	218
2,4,5-trichlorophenol	H2SO4	0.5 ug/L	4	15 W	93	Western Region water	218
2,4,5-trichlorophenol	H2SO4	5 ug/L	4	1 W	93	Quebec Region water	218
2,4,5-trichlorophenol	H2SO4	5 ug/L	4	1 W	92	Pacific Region water	218
2,4,5-trichlorophenol	H2SO4	5 ug/L	4	1 W	95	Ontario Region water	218
2,4,5-trichlorophenol	H2SO4	5 ug/L	4	3 W	100	Pacific Region water	218
2,4,5-trichlorophenol	H2SO4	5 ug/L	4	3 W	87	Quebec Region water	218
2,4,5-trichlorophenol	H2SO4	5 ug/L	4	3 W	91	Ontario Region water	218
2,4,5-trichlorophenol	H2SO4	5 ug/L	4	6 W	83	Ontario Region water	218
2,4,5-trichlorophenol	H2SO4	5 ug/L	4	6 W	91	Quebec Region water	218
2,4,5-trichlorophenol	H2SO4	5 ug/L	4	6 W	97	Pacific Region water	218
2,4,5-trichlorophenol	H2SO4	5 ug/L	4	10 W	94	Quebec Region water	218
2,4,5-trichlorophenol	H2SO4	5 ug/L	4	10 W	86	Pacific Region water	218
2,4,5-trichlorophenol	H2SO4	5 ug/L	4	10 W	91	Ontario Region water	218
2,4,5-trichlorophenol	H2SO4	5 ug/L	4	15 W	91	Quebec Region water	218
2,4,5-trichlorophenol	H2SO4	5 ug/L	4	15 W	90	Pacific Region water	218
2,4,5-trichlorophenol	H2SO4	5 ug/L	4	15 W	94	Ontario Region water	218
2,4,5-trichlorophenol	H2SO4	50 ug/L	4	1 W	94	Ontario Region water	218
2,4,5-trichlorophenol	H2SO4	50 ug/L	4	1 W	91	Pacific Region water	218
2,4,5-trichlorophenol	H2SO4	50 ug/L	4	1 W	93	Quebec Region water	218
2,4,5-trichlorophenol	H2SO4	50 ug/L	4	3 W	100	Ontario Region water	218
2,4,5-trichlorophenol	H2SO4	50 ug/L	4	3 W	88	Quebec Region water	218
2,4,5-trichlorophenol	H2SO4	50 ug/L	4	3 W	92	Pacific Region water	218
2,4,5-trichlorophenol	H2SO4	50 ug/L	4	6 W	86	Ontario Region water	218
2,4,5-trichlorophenol	H2SO4	50 ug/L	4	6 W	100	Pacific Region water	218
2,4,5-trichlorophenol	H2SO4	50 ug/L	4	6 W	91	Quebec Region water	218
2,4,5-trichlorophenol	H2SO4	50 ug/L	4	10 W	90	Ontario Region water	218
2,4,5-trichlorophenol	H2SO4	50 ug/L	4	10 W	97	Quebec Region water	218
2,4,5-trichlorophenol	H2SO4	50 ug/L	4	10 W	100	Pacific Region water	218
2,4,5-trichlorophenol	H2SO4	50 ug/L	4	15 W	91	Pacific Region water	218
2,4,5-trichlorophenol	H2SO4	50 ug/L	4	15 W	86	Ontario Region water	218
2,4,5-trichlorophenol	H2SO4	50 ug/L	4	15 W	94	Quebec Region water	218

Matrix: Water Class: Acid Extractables - Phenolics

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
2,4,6-trichlorophenol	CHLOROFORM		4	3 W	93	Lake Ontario water	218
2,4,6-trichlorophenol	CHLOROFORM		4	6 W	95	Lake Ontario water	218
2,4,6-trichlorophenol	CHLOROFORM		4	10 W	87	Lake Ontario water	218
2,4,6-trichlorophenol	CHLOROFORM		4	15 W	86	Lake Ontario water	218
2,4,6-trichlorophenol	CUSO4		4	5 W	95	Lake Ontario water	218
2,4,6-trichlorophenol	CUSO4		4	10 W	85	Lake Ontario water	218
2,4,6-trichlorophenol	H2SO4		4	3 W	103	Lake Ontario water	218
2,4,6-trichlorophenol	H2SO4		4	6 W	91	Lake Ontario water	218
2,4,6-trichlorophenol	H2SO4		4	10 W	86	Lake Ontario water	218
2,4,6-trichlorophenol	H2SO4		4	15 W	86	Lake Ontario water	218
2,4,6-trichlorophenol	H2SO4	0.5 ug/L	4	3 W	90	Western Region water	218
2,4,6-trichlorophenol	H2SO4	0.5 ug/L	4	3 W	101	Ontario Region water	218
2,4,6-trichlorophenol	H2SO4	0.5 ug/L	4	3 W	93	Atlantic Region water	218
2,4,6-trichlorophenol	H2SO4	0.5 ug/L	4	6 W	107	Ontario Region water	218
2,4,6-trichlorophenol	H2SO4	0.5 ug/L	4	6 W	83	Atlantic Region water	218
2,4,6-trichlorophenol	H2SO4	0.5 ug/L	4	6 W	89	Western Region water	218
2,4,6-trichlorophenol	H2SO4	0.5 ug/L	4	10 W	92	Western Region water	218
2,4,6-trichlorophenol	H2SO4	0.5 ug/L	4	10 W	96	Ontario Region water	218
2,4,6-trichlorophenol	H2SO4	0.5 ug/L	4	10 W	86	Atlantic Region water	218
2,4,6-trichlorophenol	H2SO4	0.5 ug/L	4	15 W	105	Ontario Region water	218
2,4,6-trichlorophenol	H2SO4	0.5 ug/L	4	15 W	91	Atlantic Region water	218
2,4,6-trichlorophenol	H2SO4	0.5 ug/L	4	15 W	104	Western Region water	218
2,4,6-trichlorophenol	H2SO4	5 ug/L	4	1 W	98	Quebec Region water	218
2,4,6-trichlorophenol	H2SO4	5 ug/L	4	1 W	97	Ontario Region water	218
2,4,6-trichlorophenol	H2SO4	5 ug/L	4	1 W	100	Pacific Region water	218
2,4,6-trichlorophenol	H2SO4	5 ug/L	4	3 W	101	Pacific Region water	218
2,4,6-trichlorophenol	H2SO4	5 ug/L	4	3 W	100	Ontario Region water	218
2,4,6-trichlorophenol	H2SO4	5 ug/L	4	3 W	102	Quebec Region water	218
2,4,6-trichlorophenol	H2SO4	5 ug/L	4	6 W	99	Ontario Region water	218
2,4,6-trichlorophenol	H2SO4	5 ug/L	4	6 W	102	Quebec Region water	218
2,4,6-trichlorophenol	H2SO4	5 ug/L	4	6 W	99	Pacific Region water	218
2,4,6-trichlorophenol	H2SO4	5 ug/L	4	10 W	93	Pacific Region water	218
2,4,6-trichlorophenol	H2SO4	5 ug/L	4	10 W	98	Ontario Region water	218
2,4,6-trichlorophenol	H2SO4	5 ug/L	4	10 W	94	Quebec Region water	218
2,4,6-trichlorophenol	H2SO4	5 ug/L	4	15 W	94	Ontario Region water	218
2,4,6-trichlorophenol	H2SO4	5 ug/L	4	15 W	95	Quebec Region water	218
2,4,6-trichlorophenol	H2SO4	5 ug/L	4	15 W	93	Pacific Region water	218
2,4,6-trichlorophenol	H2SO4	50 ug/L	4	1 W	97	Pacific Region water	218
2,4,6-trichlorophenol	H2SO4	50 ug/L	4	1 W	96	Ontario Region water	218
2,4,6-trichlorophenol	H2SO4	50 ug/L	4	1 W	102	Quebec Region water	218
2,4,6-trichlorophenol	H2SO4	50 ug/L	4	3 W	97	Quebec Region water	218
2,4,6-trichlorophenol	H2SO4	50 ug/L	4	3 W	98	Ontario Region water	218
2,4,6-trichlorophenol	H2SO4	50 ug/L	4	3 W	95	Pacific Region water	218
2,4,6-trichlorophenol	H2SO4	50 ug/L	4	6 W	98	Pacific Region water	218
2,4,6-trichlorophenol	H2SO4	50 ug/L	4	6 W	95	Ontario Region water	218
2,4,6-trichlorophenol	H2SO4	50 ug/L	4	6 W	95	Quebec Region water	218
2,4,6-trichlorophenol	H2SO4	50 ug/L	4	10 W	95	Quebec Region water	218
2,4,6-trichlorophenol	H2SO4	50 ug/L	4	10 W	94	Ontario Region water	218
2,4,6-trichlorophenol	H2SO4	50 ug/L	4	10 W	94	Pacific Region water	218

Matrix: Water Class: Acid Extractables - Phenolics

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
2,4,6-trichlorophenol	H2SO4	50 ug/L	4	15 W	96	Pacific Region water	218
2,4,6-trichlorophenol	H2SO4	50 ug/L	4	15 W	97	Quebec Region water	218
2,4,6-trichlorophenol	H2SO4	50 ug/L	4	15 W	99	Ontario Region water	218
3,4,5-trichlorophenol	CHLOROFORM		4	3 W	91	Lake Ontario water	218
3,4,5-trichlorophenol	CHLOROFORM		4	6 W	95	Lake Ontario water	218
3,4,5-trichlorophenol	CHLOROFORM		4	10 W	103	Lake Ontario water	218
3,4,5-trichlorophenol	CHLOROFORM		4	15 W	83	Lake Ontario water	218
3,4,5-trichlorophenol	CUSO4		4	5 W	86	Lake Ontario water	218
3,4,5-trichlorophenol	CUSO4		4	10 W	84	Lake Ontario water	218
3,4,5-trichlorophenol	H2SO4		4	3 W	66	Lake Ontario water	218
3,4,5-trichlorophenol	H2SO4		4	6 W	91	Lake Ontario water	218
3,4,5-trichlorophenol	H2SO4		4	10 W	74	Lake Ontario water	218
3,4,5-trichlorophenol	H2SO4		4	15 W	77	Lake Ontario water	218
3,4,5-trichlorophenol	H2SO4	0.5 ug/L	4	3 W	85	Ontario Region water	218
3,4,5-trichlorophenol	H2SO4	0.5 ug/L	4	3 W	83	Western Region water	218
3,4,5-trichlorophenol	H2SO4	0.5 ug/L	4	3 W	89	Atlantic Region water	218
3,4,5-trichlorophenol	H2SO4	0.5 ug/L	4	6 W	77	Atlantic Region water	218
3,4,5-trichlorophenol	H2SO4	0.5 ug/L	4	6 W	77	Ontario Region water	218
3,4,5-trichlorophenol	H2SO4	0.5 ug/L	4	6 W	81	Western Region water	218
3,4,5-trichlorophenol	H2SO4	0.5 ug/L	4	10 W	74	Atlantic Region water	218
3,4,5-trichlorophenol	H2SO4	0.5 ug/L	4	10 W	79	Western Region water	218
3,4,5-trichlorophenol	H2SO4	0.5 ug/L	4	10 W	81	Ontario Region water	218
3,4,5-trichlorophenol	H2SO4	0.5 ug/L	4	15 W	92	Ontario Region water	218
3,4,5-trichlorophenol	H2SO4	0.5 ug/L	4	15 W	101	Atlantic Region water	218
3,4,5-trichlorophenol	H2SO4	0.5 ug/L	4	15 W	85	Western Region water	218
3,4,5-trichlorophenol	H2SO4	5 ug/L	4	1 W	98	Ontario Region water	218
3,4,5-trichlorophenol	H2SO4	5 ug/L	4	1 W	87	Quebec Region water	218
3,4,5-trichlorophenol	H2SO4	5 ug/L	4	1 W	95	Pacific Region water	218
3,4,5-trichlorophenol	H2SO4	5 ug/L	4	3 W	100	Pacific Region water	218
3,4,5-trichlorophenol	H2SO4	5 ug/L	4	3 W	81	Quebec Region water	218
3,4,5-trichlorophenol	H2SO4	5 ug/L	4	3 W	96	Ontario Region water	218
3,4,5-trichlorophenol	H2SO4	5 ug/L	4	6 W	83	Quebec Region water	218
3,4,5-trichlorophenol	H2SO4	5 ug/L	4	6 W	76	Ontario Region water	218
3,4,5-trichlorophenol	H2SO4	5 ug/L	4	6 W	90	Pacific Region water	218
3,4,5-trichlorophenol	H2SO4	5 ug/L	4	10 W	81	Pacific Region water	218
3,4,5-trichlorophenol	H2SO4	5 ug/L	4	10 W	92	Ontario Region water	218
3,4,5-trichlorophenol	H2SO4	5 ug/L	4	10 W	99	Quebec Region water	218
3,4,5-trichlorophenol	H2SO4	5 ug/L	4	15 W	98	Ontario Region water	218
3,4,5-trichlorophenol	H2SO4	5 ug/L	4	15 W	97	Quebec Region water	218
3,4,5-trichlorophenol	H2SO4	5 ug/L	4	15 W	93	Pacific Region water	218
3,4,5-trichlorophenol	H2SO4	50 ug/L	4	1 W	92	Pacific Region water	218
3,4,5-trichlorophenol	H2SO4	50 ug/L	4	1 W	89	Quebec Region water	218
3,4,5-trichlorophenol	H2SO4	50 ug/L	4	1 W	83	Ontario Region water	218
3,4,5-trichlorophenol	H2SO4	50 ug/L	4	3 W	83	Quebec Region water	218
3,4,5-trichlorophenol	H2SO4	50 ug/L	4	3 W	96	Ontario Region water	218
3,4,5-trichlorophenol	H2SO4	50 ug/L	4	3 W	90	Pacific Region water	218
3,4,5-trichlorophenol	H2SO4	50 ug/L	4	6 W	92	Pacific Region water	218
3,4,5-trichlorophenol	H2SO4	50 ug/L	4	6 W	88	Ontario Region water	218
3,4,5-trichlorophenol	H2SO4	50 ug/L	4	6 W	87	Quebec Region water	218

Matrix: Water Class: Acid Extractables - Phenolics

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
3,4,5-trichlorophenol	H2SO4	50 ug/L	4	10 W	95	Quebec Region water	218
3,4,5-trichlorophenol	H2SO4	50 ug/L	4	10 W	88	Ontario Region water	218
3,4,5-trichlorophenol	H2SO4	50 ug/L	4	10 W	96	Pacific Region water	218
3,4,5-trichlorophenol	H2SO4	50 ug/L	4	15 W	89	Ontario Region water	218
3,4,5-trichlorophenol	H2SO4	50 ug/L	4	15 W	89	Pacific Region water	218
3,4,5-trichlorophenol	H2SO4	50 ug/L	4	15 W	93	Quebec Region water	218

COMPOUND CLASS PROFILE

Acid Extractables - Phenolics

Sediment:

Existing Criteria: None

Experimental Data: None

Data Evaluation: None

Data Deficiencies: No data obtained

Storage Recommendations: Tentative recommendation - store at -20°C for up to 15 weeks with no preservation.

COMPOUND CLASS PROFILE

Acid Extractables - Phenolics

Vegetation:

Existing Criteria: None

Experimental Data: None

Data Evaluation: None

Data Deficiencies: No data obtained

Storage Recommendations: Tentative recommendation - store at -20°C for up to 15 weeks with no preservation.

COMPOUND CLASS PROFILE

Acid Extractables - Phenolics

Waste Water:

Existing Criteria:	U.S. EPA Sampling Manual Collect in amber glass container with teflon lined cap; 0.008% $Na_2S_2O_3$; refrigerate; extract within 7 days; analyze within 40 days of extraction.
Experimental Data:	None
Data Evaluation:	None
Data Deficiencies:	No data obtained
Storage Recommendations:	Tentative recommendation - follow recommendation for drinking water or U.S. EPA protocol of collection in an amber glass container with teflon lined cap; add 0.008% $Na_2S_2O_3$ if chlorine presence is known or suspected; refrigerate; extract within 7 days and analyze within 40 days of extraction.

COMPOUND CLASS PROFILE

Base-neutral Extractable Compounds

Air - Canister or Bag:

Existing Criteria:	None
Experimental Data:	None
Data Evaluation:	None
Data Deficiencies:	No data obtained
Storage Recommendations:	Tentative recommendation - store SUMMA canisters or glass sample containers at 25°C for up to 12 days before analysis.

COMPOUND CLASS PROFILE

Base-neutral Extractable Compounds

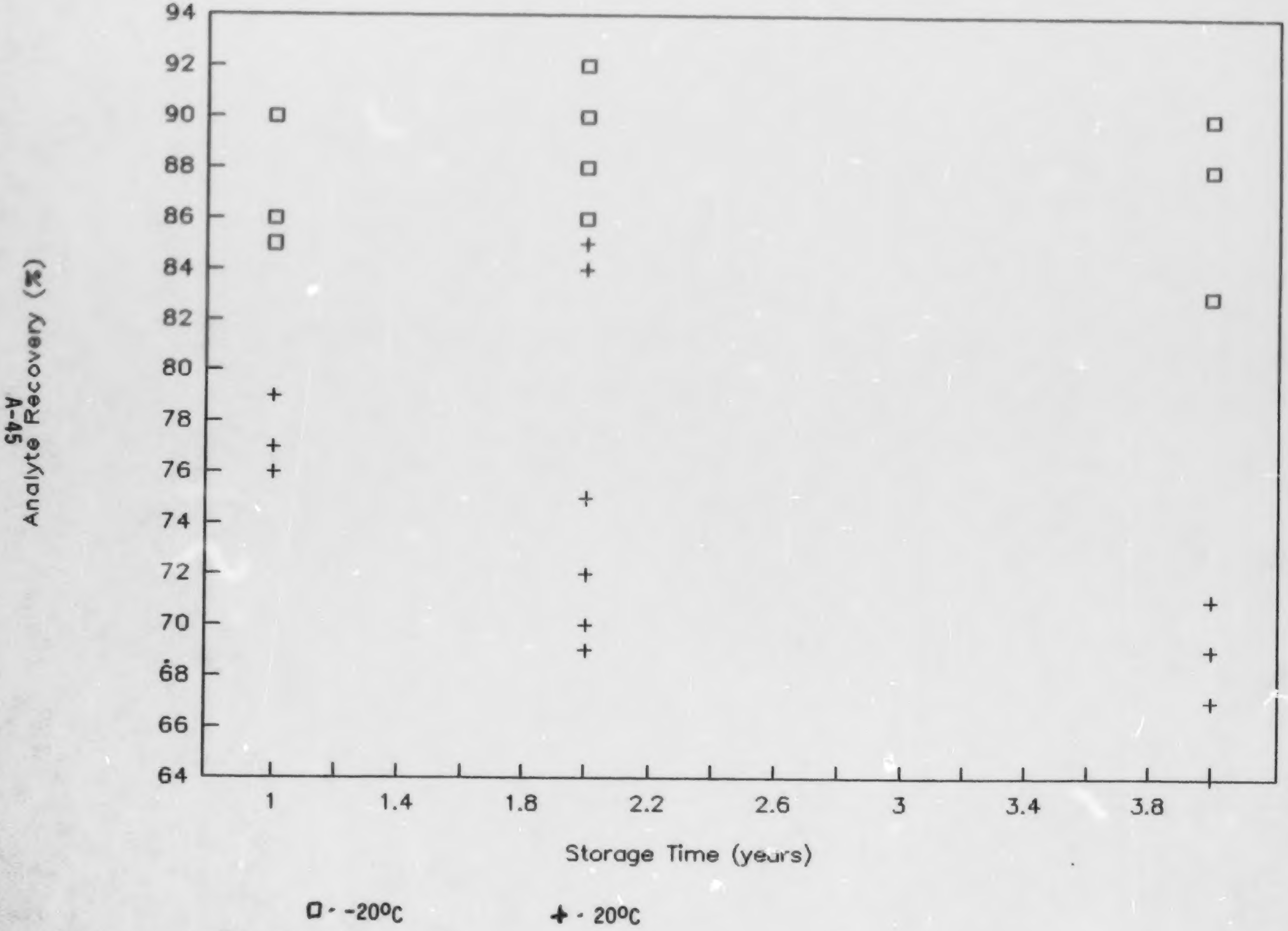
Air - Filter:

Existing Criteria:	None
Experimental Data:	One study for one compound for 1-4 years at 2 temperatures, -20°C and 20°C.
Data Evaluation:	No statistical analysis, conditions are too varied.
Data Deficiencies:	Insufficient or no data for statistical analysis for all compounds on target list.
Storage Recommendations:	Provisional recommendation - store filters at -20°C under air-argon gas mixture. Samples are stable for at least 2 years.

COMPOUND CLASS: *Base-Neutral Extractable Compounds* MATRIX: *Air - Filter* RUN DATE: *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME		RECOVERY	COMMENT	REFERENCE
benzo(a)pyrene									
	GLAS.FIB.FIL	5.2 - 9.7	ppm	20	1 - 4	Y	64 - 92		
				Average Recovery:			82	Std. Dev.: 9.2	

Figure A-7 Analyte Recovery at Different Temperatures for Base Neutral Extractable Compounds in Air-Filter Matrix



Ref: ASC 225

Matrix: Air - Filters Class: Base-neutral Extractable Compounds

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
benzo(a)pyrene	GLAS.FIB.FIL	5.2 ppm	20	1 Y	79	gas - air	225
benzo(a)pyrene	GLAS.FIB.FIL	5.2 ppm	-20	1 Y	85	gas - argon	225
benzo(a)pyrene	GLAS.FIB.FIL	5.2 ppm	-20	1 Y	90	gas - air	225
benzo(a)pyrene	GLAS.FIB.FIL	5.2 ppm	20	2 Y	85	gas - air	225
benzo(a)pyrene	GLAS.FIB.FIL	5.2 ppm	-20	2 Y	92	gas - air	225
benzo(a)pyrene	GLAS.FIB.FIL	5.2 ppm	-20	2 Y	90	gas - argon	225
benzo(a)pyrene	GLAS.FIB.FIL	5.2 ppm	-20	2 Y	90	gas - air	225
benzo(a)pyrene	GLAS.FIB.FIL	5.2 ppm	20	2 Y	75	gas - air	225
benzo(a)pyrene	GLAS.FIB.FIL	5.2 ppm	-20	2 Y	88	gas - argon	225
benzo(a)pyrene	GLAS.FIB.FIL	5.2 ppm	-20	4 Y	90	gas - air	225
benzo(a)pyrene	GLAS.FIB.FIL	5.2 ppm	-20	4 Y	88	gas - argon	225
benzo(a)pyrene	GLAS.FIB.FIL	5.2 ppm	20	4 Y	71	gas - air	225
benzo(a)pyrene	GLAS.FIB.FIL	5.4 ppm	20	1 Y	76	gas - argon	225
benzo(a)pyrene	GLAS.FIB.FIL	5.4 ppm	20	2 Y	85	gas - argon	225
benzo(a)pyrene	GLAS.FIB.FIL	5.4 ppm	20	2 Y	70	gas - argon	225
benzo(a)pyrene	GLAS.FIB.FIL	5.4 ppm	20	4 Y	69	gas - argon	225
benzo(a)pyrene	GLAS.FIB.FIL	8.2 ppm	20	1 Y	77	gas - argon	225
benzo(a)pyrene	GLAS.FIB.FIL	8.2 ppm	20	2 Y	84	gas - argon	225
benzo(a)pyrene	GLAS.FIB.FIL	8.2 ppm	20	2 Y	72	gas - argon	225
benzo(a)pyrene	GLAS.FIB.FIL	8.2 ppm	20	4 Y	67	gas - argon	225
benzo(a)pyrene	GLAS.FIB.FIL	8.4 ppm	-20	1 Y	86	gas - argon	225
benzo(a)pyrene	GLAS.FIB.FIL	8.4 ppm	-20	2 Y	92	gas - argon	225
benzo(a)pyrene	GLAS.FIB.FIL	8.4 ppm	-20	2 Y	86	gas - argon	225
benzo(a)pyrene	GLAS.FIB.FIL	8.4 ppm	-20	4 Y	83	gas - argon	225
benzo(a)pyrene	GLAS.FIB.FIL	8.6 ppm	-20	1 Y	86	gas - air	225
benzo(a)pyrene	GLAS.FIB.FIL	8.6 ppm	-20	2 Y	90	gas - air	225
benzo(a)pyrene	GLAS.FIB.FIL	8.6 ppm	-20	2 Y	88	gas - air	225
benzo(a)pyrene	GLAS.FIB.FIL	8.6 ppm	-20	4 Y	90	gas - air	225
benzo(a)pyrene	GLAS.FIB.FIL	8.7 ppm	20	1 Y	79	gas - air	225
benzo(a)pyrene	GLAS.FIB.FIL	8.7 ppm	20	2 Y	85	gas - air	225
benzo(a)pyrene	GLAS.FIB.FIL	8.7 ppm	20	2 Y	69	gas - air	225
benzo(a)pyrene	GLAS.FIB.FIL	8.7 ppm	20	4 Y	64	gas - air	225

COMPOUND CLASS PROFILE

Base-neutral Extractable Compounds

Air - Sorbent Trap:

Existing Criteria:	None
Experimental Data:	None
Data Evaluation:	None
Data Deficiencies:	No data obtained
Storage Recommendations:	Tentative recommendation - follow U.S. E.P.A. protocol of sampling with distributed air volume sets. Sample tubes are sealed; refrigerated; analysis to be completed between 7 and 30 days after sampling.

COMPOUND CLASS PROFILE

Base-neutral Extractable Compounds

Biota:

Existing Criteria:	None
Experimental Data:	One study for one compound at two temperatures, -20°C and 20°C for a two year period.
Data Evaluation:	None
Data Deficiencies:	Insufficient or no data obtained for statistical analysis for all compounds on the target list.
Storage Recommendations:	Tentative recommendation - Extract on to glass fibre filters, store at -20°C under air-argon gas mixture. Samples are stable for at least 2 years.

COMPOUND CLASS: *Base-Neutral Extractable Compounds* MATRIX: *Biota* RUN DATE: *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION	T (C)	TIME	RECOVERY	COMMENT	REFERENCE
benzo(a)pyrene							
	AIR + ARGON	-	-20	2 - 2 Y	80 - 92		
			Average Recovery:		86	Std. Dev.: 6.0	

Matrix: Biota Class: Base-neutral Extractable Compounds

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
benzo(a)pyrene	AIR + ARGON		20	2 Y	80	quartz glass fibre filters	224
benzo(a)pyrene	AIR + ARGON		-20	2 Y	92	quartz glass fibre filters	224

COMPOUND CLASS PROFILE

Base-Neutral Extractables Compounds

Drinking/Surface Water:

Existing Criteria:	U.S. EPA Sampling Manual Collect in amber glass container with teflon lined cap; preserve with 0.008% $Na_2S_2O_3$; refrigerate; store in dark; extract within 7 days; analyze within 40 days of extraction.
Experimental Data:	Four major studies. Comparison of preservation with 2 ppm Cl and no Cl at 2 temperatures at pH 2, 7, and 10 in waters after 7 days.
Data Evaluation:	Statistical Evaluation of preservation with Cl vs. no Cl at pH 2, 7, and 10 at 4°C and 25°C demonstrates most consistent recoveries at pH 2, 4°C with no Cl preservation for the compounds studied for the 1 week duration of the study.
Data Deficiencies:	Insufficient or no data obtained for majority of compounds on list.
Storage Recommendations:	Preserve samples at pH 2 without chlorine; store at 4°C for up to 33 days before extraction and analysis.

COMPOUND CLASS: *Base-Neutral Extractable Compounds* **MATRIX:** *Drinking/Surface Water* **RUN DATE:** *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME		RECOVERY	COMMENT	REFERENCE
acenaphthylene									
	AG FILTERS	-		4	3 - 36	D	80 - 95		
				Average Recovery:			88	**Std. Dev.:** 7.5	
	PH10.0PPM CL	40 - 40	ppb	25	7 - 7	D	45 - 73		
				Average Recovery:			61	**Std. Dev.:** 12.5	
	PH10.2PPM CL	40 - 40	ppb	25	7 - 7	D	57 - 70		
				Average Recovery:			64	**Std. Dev.:** 6.5	
	PH2. 0PPM CL	40 - 40	ppb	25	7 - 7	D	74 - 75		
				Average Recovery:			75	**Std. Dev.:** 0.5	
	PH2. 2PPM CL	40 - 40	ppb	4	7 - 7	D	5 - 5		
				Average Recovery:			5	**Std. Dev.:** 0.0	
	PH7. 0PPM CL	40 - 40	ppb	25	7 - 7	D	73 - 73		
				Average Recovery:			73	**Std. Dev.:** 0.0	
	PH7. 2PPM CL	40 - 40	ppb	4	7 - 7	D	17 - 68		
				Average Recovery:			43	**Std. Dev.:** 25.5	
anthracene									
	C18 COLUMN	2 - 5	ng/mL	25	1 - 3	M	22 - 57		
				Average Recovery:			36	**Std. Dev.:** 10.5	
benz(a)anthracene									
	C18 COLUMN	100.2 - 250.5	ng/mL	25	1 - 3	M	54 - 87		
				Average Recovery:			72	**Std. Dev.:** 9.5	
	PH 10	40 - 40	ppb	25	7 - 7	D	74 - 74		
				Average Recovery:			74	**Std. Dev.:** 0.0	
	PH 2	40 - 40	ppb	25	7 - 7	D	61 - 74		
				Average Recovery:			68	**Std. Dev.:** 6.5	
	PH 2. 2PPMCL	40 - 40	ppb	25	7 - 7	D	9 - 10		
				Average Recovery:			10	**Std. Dev.:** 0.5	
	PH 7	40 - 40	ppb	25	7 - 7	D	65 - 73		
				Average Recovery:			69	**Std. Dev.:** 4.0	
	PH 7. 2PPMCL	40 - 40	ppb	4	7 - 7	D	58 - 64		
				Average Recovery:			61	**Std. Dev.:** 3.0	
	PH10	40 - 40	ppb	4	7 - 7	D	61 - 61		
				Average Recovery:			61	**Std. Dev.:** 0.0	

COMPOUND CLASS: *Base-Neutral Extractable Compounds* **MATRIX:** *Drinking/Surface Water* **RUN DATE:** *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME		RECOVERY	COMMENT	REFERENCE
benz(a)anthracene									
	PH10. 2PPMCL	40 - 40	ppb	25	7 - 7	D	50 - 63		
				Average Recovery:			57	Std. Dev.: 6.5	
benzo(b)chrysene									
	C18 COLUMN	20.3 - 52	ng/mL	25	1 - 3	M	25 - 45		
				Average Recovery:			32	Std. Dev.: 5.3	
benzo(k)fluoranthene									
	C18 COLUMN	10 - 99.2	ng/mL	25	1 - 3	M	41 - 81		
				Average Recovery:			58	Std. Dev.: 9.6	
benzo(g,h,i)perylene									
	C18 COLUMN	198 - 495	ng/mL	25	1 - 3	M	35 - 50		
				Average Recovery:			42	Std. Dev.: 4.0	
benzo(a)pyrene									
	C18 COLUMN	149 - 59.6	ng/mL	25	1 - 3	M	26 - 83		
				Average Recovery:			55	Std. Dev.: 16.7	
bis(2-chloroethyl)ether									
	PH 10	-		24	7 - 7	D	53 - 70		
				Average Recovery:			62	Std. Dev.: 8.2	
	PH 10.2PPMCL	-		4	7 - 7	D	56 - 80		
				Average Recovery:			68	Std. Dev.: 12.4	
	PH 2	-		4	7 - 7	D	62 - 77		
				Average Recovery:			69	Std. Dev.: 7.4	
	PH 2. 2PPMCL	-		24	7 - 7	D	67 - 79		
				Average Recovery:			73	Std. Dev.: 6.0	
	PH 7	-		4	7 - 7	D	61 - 67		
				Average Recovery:			64	Std. Dev.: 2.8	
	PH 7. 2PPMCL	-		4	7 - 7	D	59 - 69		
				Average Recovery:			64	Std. Dev.: 4.7	
4-bromophenyl phenyl ether									
	PH 10	-		4	7 - 7	D	57 - 78		
				Average Recovery:			68	Std. Dev.: 10.6	

COMPOUND	PRESERVATIVE	CONCENTRATION	T (C)	TIME	RECOVERY	COMMENT	REFERENCE
4-bromophenyl phenyl ether							
	PH 10.2PPMCL	-	4	7 - 7 D	61 - 77		
			Average Recovery:		69	Std. Dev.: 8.2	
	PH 2	-	24	7 - 7 D	91 - 92		
			Average Recovery:		91	Std. Dev.: 0.7	
	PH 2. 2PPMCL	-	24	7 - 7 D	12 - 19		
			Average Recovery:		15	Std. Dev.: 3.6	
	PH 7	-	4	7 - 7 D	77 - 88		
			Average Recovery:		82	Std. Dev.: 5.7	
	PH 7. 2PPMCL	-	4	7 - 7 D	73 - 79		
			Average Recovery:		76	Std. Dev.: 3.4	
benzyl butyl phthalate							
	PH 10	-	24	7 - 7 D	40 - 74		
			Average Recovery:		57	Std. Dev.: 17.0	
	PH 10.2PPMCL	-	4	7 - 7 D	36 - 82		
			Average Recovery:		59	Std. Dev.: 23.0	
	PH 2	-	24	7 - 7 D	90 - 97		
			Average Recovery:		94	Std. Dev.: 3.5	
	PH 2. 2PPMCL	-	24	7 - 7 D	94 - 95		
			Average Recovery:		95	Std. Dev.: 0.5	
	PH 7	-	4	7 - 7 D	73 - 73		
			Average Recovery:		73	Std. Dev.: 0.0	
	PH 7. 2PPMCL	-	4	7 - 7 D	69 - 77		
			Average Recovery:		73	Std. Dev.: 4.0	
2-chloronaphthalene							
	PH=2	40 - 40 ug/L	4	0 - 14 D	75 - 115		
			Average Recovery:		92	Std. Dev.: 16.8	
	PH=7	40 - 40 ug/L	4	0 - 21 D	45 - 105		
			Average Recovery:		73	Std. Dev.: 19.7	
	PH=9	40 - 40 ug/L	4	0 - 14 D	90 - 110		
			Average Recovery:		102	Std. Dev.: 8.5	
chrysene							

COMPOUND CLASS: *Base-Neutral Extractable Compounds* MATRIX: *Drinking/Surface Water* RUN DATE: *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME		RECOVERY	COMMENT	REFERENCE
chrysene									
	C18 COLUMN	196 - 490	ng/mL	25	1 - 3	M	60 - 89		
				Average Recovery:			75	Std. Dev.: 10.3	
	PH10.0PPM CL	40 - 40	ppb	4	7 - 7	D	105 - 109		
				Average Recovery:			107	Std. Dev.: 2.0	
	PH10.2PPM CL	40 - 40	ppb	25	7 - 7	D	91 - 95		
				Average Recovery:			93	Std. Dev.: 2.0	
	PH2. 0PPM CL	40 - 40	ppb	25	7 - 7	D	63 - 79		
				Average Recovery:			71	Std. Dev.: 8.0	
	PH2. 2PPM CL	40 - 40	ppb	4	7 - 7	D	39 - 88		
				Average Recovery:			64	Std. Dev.: 24.5	
	PH7. 0PPM CL	40 - 40	ppb	25	7 - 7	D	83 - 84		
				Average Recovery:			84	Std. Dev.: 0.5	
	PH7. 2PPM CL	40 - 40	ppb	4	7 - 7	D	53 - 77		
				Average Recovery:			65	Std. Dev.: 12.0	
coronene									
	C18 COLUMN	247.5 - 99	ng/mL	25	1 - 3	M	28 - 40		
				Average Recovery:			35	Std. Dev.: 3.5	
dibenz(a,h)anthracene									
	C18 COLUMN	247.5 - 59	ng/mL	25	1 - 3	M	34 - 57		
				Average Recovery:			43	Std. Dev.: 7.0	
	PH10.0PPM CL	40 - 40	ppb	25	7 - 7	D	105 - 124		
				Average Recovery:			115	Std. Dev.: 9.5	
	PH10.2PPM CL	40 - 40	ppb	25	7 - 7	D	88 - 90		
				Average Recovery:			89	Std. Dev.: 1.0	
	PH2. 0PPM CL	40 - 40	ppb	25	7 - 7	D	73 - 75		
				Average Recovery:			74	Std. Dev.: 1.0	
	PH2. 2PPM CL	40 - 40	ppb	4	7 - 7	D	61 - 88		
				Average Recovery:			75	Std. Dev.: 13.5	
	PH7. 0PPM CL	40 - 40	ppb	4	7 - 7	D	70 - 76		
				Average Recovery:			72	Std. Dev.: 2.0	
	PH7. 2PPM CL	40 - 40	ppb	4	7 - 7	D	60 - 78		
				Average Recovery:			69	Std. Dev.: 9.0	

COMPOUND CLASS: *Base-Neutral Extractable Compounds* MATRIX: *Drinking/Surface Water* RUN DATE: *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME		RECOVERY	COMMENT	REFERENCE
dibenz(a.h)anthracene									
di-n-butylphthalate									
		4420 - 4420	ug/L	25	12 - 12		90 - 90		
				Average Recovery:			90	Std. Dev.: 0.0	
	PH 10	-		24	7 - 7	D	78 - 92		
				Average Recovery:			85	Std. Dev.: 7.0	
	PH 10.2PPMCL	-		4	7 - 7	D	70 - 95		
				Average Recovery:			83	Std. Dev.: 12.5	
	PH 2	-		24	7 - 7	D	79 - 88		
				Average Recovery:			84	Std. Dev.: 4.5	
	PH 2. 2PPMCL	-		24	7 - 7	D	89 - 90		
				Average Recovery:			90	Std. Dev.: 0.5	
	PH 7	-		4	7 - 7	D	85 - 92		
				Average Recovery:			89	Std. Dev.: 3.5	
	PH 7. 2PPMCL	-		4	7 - 7	D	90 - 90		
				Average Recovery:			90	Std. Dev.: 0.0	
dimethylbenz(a)anthracene									
	C18 COLUMN	100.8 - 252	ng/mL	25	1 - 3	M	32 - 91		
				Average Recovery:			59	Std. Dev.: 18.2	
2.4-dinitrotoluene									
	PH=0.5	10 - 10	ppb		1 - 33	D	93 - 98		
				Average Recovery:			96	Std. Dev.: 2.5	
	PH=1.4	10 - 10	ppb		1 - 33	D	93 - 96		
				Average Recovery:			95	Std. Dev.: 1.5	
	PH=10.3	10 - 10	ppb		1 - 33	D	73 - 88		
				Average Recovery:			81	Std. Dev.: 7.5	
	PH=2.9	10 - 10	ppb		1 - 33	D	86 - 89		
				Average Recovery:			88	Std. Dev.: 1.5	
	PH=3.8	10 - 10	ppb		1 - 33	D	98 - 99		
				Average Recovery:			99	Std. Dev.: 0.5	
	PH=6.0	10 - 10	ppb		1 - 33	D	92 - 96		
				Average Recovery:			94	Std. Dev.: 2.0	

COMPOUND CLASS: *Base-Neutral Extractable Compounds* **MATRIX:** *Drinking/Surface Water* **RUN DATE:** *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME	RECOVERY	COMMENT	REFERENCE
2.4-dinitrotoluene								
	PH=7.9	10 - 10	ppb		1 - 33 D	96 - 100		
				Average Recovery:		98	Std. Dev.: 2.0	
2.6-dinitrotoluene								
	PH=.5	10 - 10	ppb		1 - 1 D	89 - 89		
				Average Recovery:		89	Std. Dev.: 0.0	
	PH=0.5	10 - 10	ppb		33 - 33 D	92 - 92		
				Average Recovery:		92	Std. Dev.: 0.0	
	PH=1.4	10 - 10	ppb		1 - 33 D	98 - 98		
				Average Recovery:		98	Std. Dev.: 0.0	
	PH=10.3	10 - 10	ppb		1 - 33 D	91 - 92		
				Average Recovery:		92	Std. Dev.: 0.5	
	PH=2.9	10 - 10	ppb		1 - 33 D	88 - 91		
				Average Recovery:		90	Std. Dev.: 1.5	
	PH=3.8	10 - 10	ppb		1 - 33 D	94 - 95		
				Average Recovery:		95	Std. Dev.: 0.5	
	PH=6.0	10 - 10	ppb		1 - 33 D	88 - 94		
				Average Recovery:		91	Std. Dev.: 3.0	
	PH=7.9	10 - 10	ppb		1 - 33 D	87 - 90		
				Average Recovery:		89	Std. Dev.: 1.5	
di-n-octylphthalate								
	PH 10	-		24	7 - 7 D	85 - 85		
				Average Recovery:		85	Std. Dev.: 0.0	
	PH 10.2PPMCL	-		24	7 - 7 D	78 - 87		
				Average Recovery:		83	Std. Dev.: 4.5	
	PH 2	-		24	7 - 7 D	92 - 100		
				Average Recovery:		96	Std. Dev.: 4.0	
	PH 2. 2PPMCL	-		4	7 - 7 D	93 - 97		
				Average Recovery:		95	Std. Dev.: 2.0	
	PH 7	-		24	7 - 7 D	69 - 92		
				Average Recovery:		81	Std. Dev.: 11.5	
	PH 7. 2PPMCL	-		24	7 - 7 D	91 - 96		
				Average Recovery:		94	Std. Dev.: 2.5	

COMPOUND CLASS: *Base-Neutral Extractable Compounds* **MATRIX:** *Drinking/Surface Water* **RUN DATE:** *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME		RECOVERY	COMMENT	REFERENCE
di-n-octylphthalate									
bis-(2-ethylhexyl)-phthalate		229 - 407	ug/L	25	12 - 12		65 - 71		
				Average Recovery:			68	Std. Dev.: 3.0	
	PH 10	-		24	7 - 7	D	89 - 92		
				Average Recovery:			91	Std. Dev.: 1.5	
	PH 10.2PPMCL	-		4	7 - 7	D	80 - 94		
				Average Recovery:			87	Std. Dev.: 7.0	
	PH 2	-		24	7 - 7	D	100 - 100		
				Average Recovery:			100	Std. Dev.: 0.0	
	PH 2. 2PPMCL	-		24	7 - 7	D	96 - 96		
				Average Recovery:			96	Std. Dev.: 0.0	
	PH 7	-		4	7 - 7	D	88 - 100		
				Average Recovery:			94	Std. Dev.: 6.0	
	PH 7. 2PPMCL	-		4	7 - 7	D	86 - 95		
				Average Recovery:			91	Std. Dev.: 4.5	
fluoranthene	C18 COLUMN	100 - 250	ng/mL	25	1 - 3	M	71 - 84		
				Average Recovery:			81	Std. Dev.: 3.9	
fluorene	PH10.0PPM CL	40 - 40	ppb	4	7 - 7	D	57 - 70		
				Average Recovery:			64	Std. Dev.: 6.5	
	PH10.2PPM CL	40 - 40	ppb	25	7 - 7	D	48 - 71		
				Average Recovery:			60	Std. Dev.: 11.5	
	PH2. 0PPM CL	40 - 40	ppb	4	7 - 7	D	73 - 80		
				Average Recovery:			77	Std. Dev.: 3.5	
	PH2. 2PPM CL	40 - 40	ppb	25	7 - 7	D	64 - 69		
				Average Recovery:			67	Std. Dev.: 2.5	
	PH7. 0PPM CL	40 - 40	ppb	4	7 - 7	D	68 - 76		
				Average Recovery:			72	Std. Dev.: 4.0	
	PH7. 2PPM CL	40 - 40	ppb	25	7 - 7	D	50 - 73		
				Average Recovery:			62	Std. Dev.: 11.5	

COMPOUND CLASS: *Base-Neutral Extractable Compounds* MATRIX: *Drinking/Surface Water* RUN DATE: *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME		RECOVERY	COMMENT	REFERENCE
indeno(1,2,3-cd)pyrene									
	C18 COLUMN	137.5 - 55	ng/mL	25	1 - 3	M	39 - 68		
				Average Recovery:			49	Std. Dev.: 8.3	
	PH10.0PPM CL	40 - 40	ppb	25	7 - 7	D	133 - 142		
				Average Recovery:			138	Std. Dev.: 4.5	
	PH10.2PPM CL	40 - 40	ppb	25	7 - 7	D	102 - 117		
				Average Recovery:			110	Std. Dev.: 7.5	
	PH2. 0PPM CL	40 - 40	ppb	4	7 - 7	D	75 - 77		
				Average Recovery:			76	Std. Dev.: 1.0	
	PH2. 2PPM CL	40 - 40	ppb	25	7 - 7	D	46 - 88		
				Average Recovery:			67	Std. Dev.: 21.0	
	PH7. 0PPM CL	40 - 40	ppb	25	7 - 7	D	75 - 78		
				Average Recovery:			77	Std. Dev.: 1.5	
	PH7. 2PPM CL	40 - 40	ppb	4	7 - 7	D	73 - 85		
				Average Recovery:			79	Std. Dev.: 6.0	
2-methylnaphthalene									
	AG FILTERS	-		4	36 - 36	D	95 - 95		
				Average Recovery:			95	Std. Dev.: 0.0	
naphthalene									
	C18 COLUMN	1000 - 2500	ng/mL	25	1 - 3	M	5 - 5		
				Average Recovery:			5	Std. Dev.: 0.3	
	PH10.0PPM CL	40 - 40	ppb	25	7 - 7	D	104 - 111		
				Average Recovery:			108	Std. Dev.: 3.5	
	PH10.2PPM CL	40 - 40	ppb	4	7 - 7	D	83 - 101		
				Average Recovery:			92	Std. Dev.: 9.0	
	PH2. 0PPM CL	40 - 40	ppb	25	7 - 7	D	77 - 81		
				Average Recovery:			79	Std. Dev.: 2.0	
	PH2. 2PPM CL	40 - 40	ppb	25	7 - 7	D	61 - 89		
				Average Recovery:			75	Std. Dev.: 14.0	
	PH7. 0PPM CL	40 - 40	ppb	4	7 - 7	D	89 - 89		
				Average Recovery:			89	Std. Dev.: 0.0	
	PH7. 2PPM CL	40 - 40	ppb	25	7 - 7	D	93 - 97		
				Average Recovery:			95	Std. Dev.: 2.0	

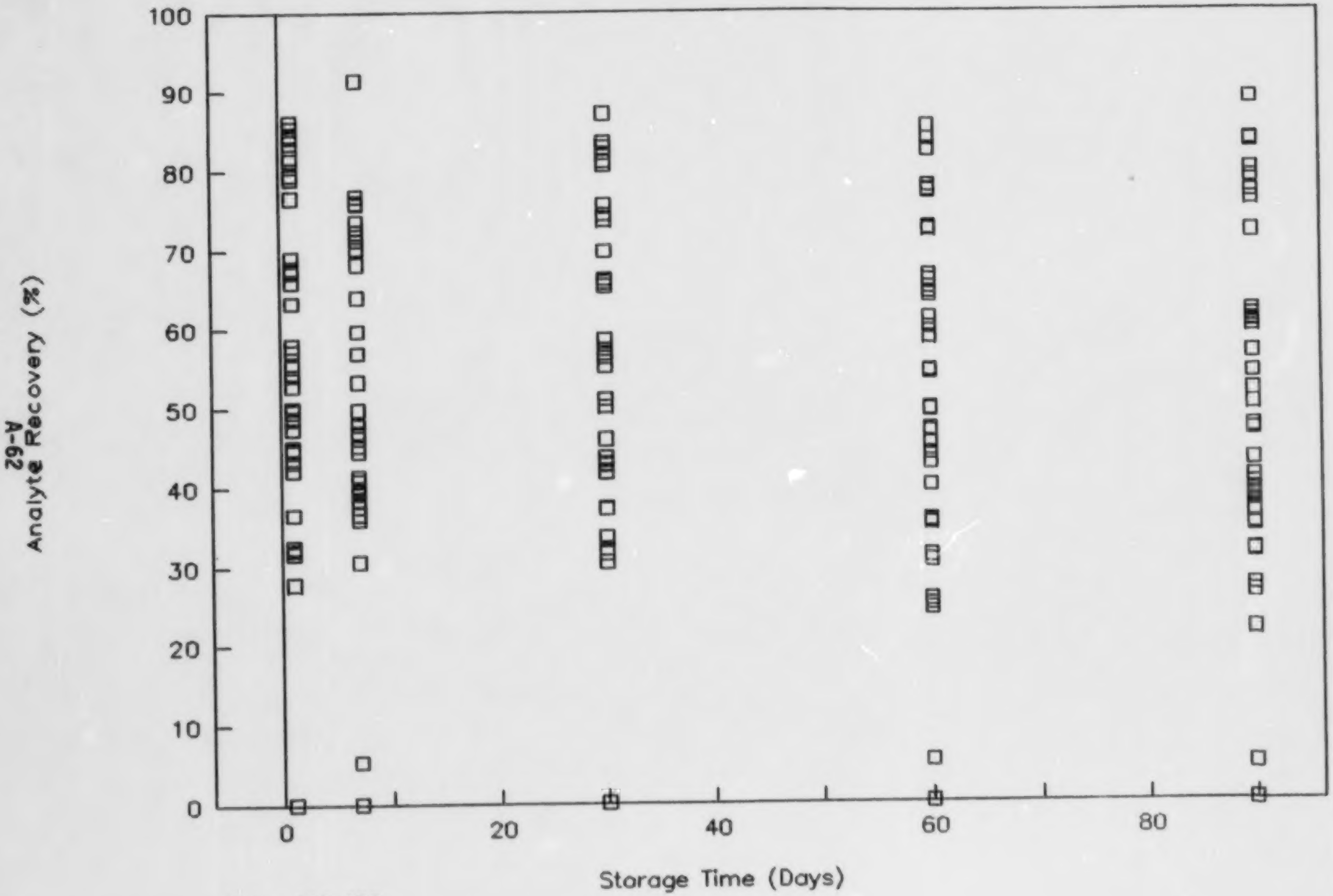
COMPOUND CLASS: *Base-Neutral Extractable Compounds* **MATRIX:** *Drinking/Surface Water* **RUN DATE:** *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION	T (C)	TIME	RECOVERY	COMMENT	REFERENCE
naphthalene							
n-nitrosodiphenylamine							
	PH 10	-	24	7 - 7 D	13 - 31		
			Average Recovery:		22	Std. Dev.: 9.0	
	PH 10.2PPMCL	-	24	7 - 7 D	62 - 62		
			Average Recovery:		62	Std. Dev.: 0.0	
	PH 2	-	24	7 - 7 D	50 - 69		
			Average Recovery:		60	Std. Dev.: 9.5	
	PH 2. 2PPMCL	-	4	7 - 7 D	94 - 95		
			Average Recovery:		95	Std. Dev.: 0.5	
	PH 7	-	24	7 - 7 D	14 - 31		
			Average Recovery:		23	Std. Dev.: 8.5	
	PH 7. 2PPMCL	-	4	7 - 7 D	31 - 78		
			Average Recovery:		55	Std. Dev.: 23.5	
	PH10. 2PPMCL	-	4	7 - 7 D	26 - 26		
			Average Recovery:		26	Std. Dev.: 0.0	
n-nitroso-di-n-propylamine							
	PH 10	-	4	7 - 7 D	3 - 100		
			Average Recovery:		67	Std. Dev.: 45.3	
	PH 10.2PPMCL	-	4	7 - 7 D	6 - 97		
			Average Recovery:		52	Std. Dev.: 45.3	
	PH 2	-	24	7 - 7 D	3 - 100		
			Average Recovery:		68	Std. Dev.: 45.7	
	PH 2. 2PPMCL	-	4	7 - 7 D	3 - 100		
			Average Recovery:		53	Std. Dev.: 47.5	
	PH 7	-	4	7 - 7 D	8 - 100		
			Average Recovery:		68	Std. Dev.: 42.7	
	PH 7. 2PPMCL	-	4	7 - 7 D	3 - 99		
			Average Recovery:		52	Std. Dev.: 46.0	
phenanthrene							
	C18 COLUMN	248.5 - 99.4 ng/mL	25	1 - 3 M	40 - 76		
			Average Recovery:		59	Std. Dev.: 11.5	

COMPOUND CLASS: *Base-Neutral Extractable Compounds* **MATRIX:** *Drinking/Surface Water* **RUN DATE:** *12-Oct-89*

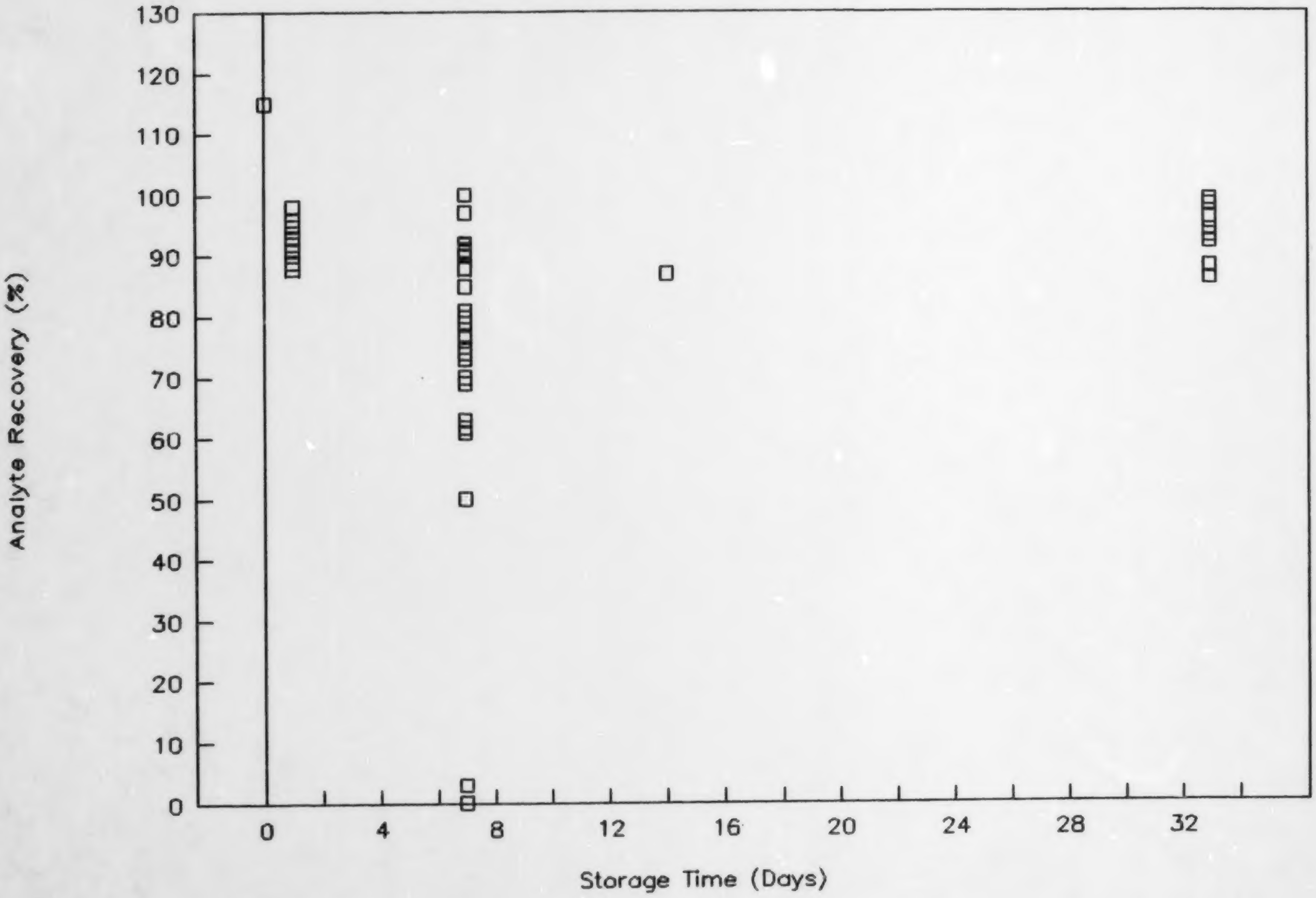
COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME		RECOVERY	COMMENT	REFERENCE
phenanthrene	PH10.0PPM CL	40 - 40	ppb	25	7 - 7	D	66 - 87		
				Average Recovery:			77	Std. Dev.: 10.5	
	PH10.2PPM CL	40 - 40	ppb	25	7 - 7	D	45 - 61		
				Average Recovery:			53	Std. Dev.: 8.0	
	PH2. 0PPM CL	40 - 40	ppb	4	7 - 7	D	70 - 73		
				Average Recovery:			72	Std. Dev.: 1.5	
	PH2. 2PPM CL	40 - 40	ppb	4	7 - 7	D	59 - 60		
				Average Recovery:			60	Std. Dev.: 0.5	
	PH7. 0PPM CL	40 - 40	ppb	25	7 - 7	D	69 - 72		
				Average Recovery:			71	Std. Dev.: 1.5	
	PH7. 2PPM CL	40 - 40	ppb	25	7 - 7	D	69 - 72		
				Average Recovery:			71	Std. Dev.: 1.5	
pyrene	C18 COLUMN	200.8 - 502	ng/mL	25	1 - 3	M	72 - 83		
				Average Recovery:			78	Std. Dev.: 3.1	
	PH10.0PPM CL	40 - 40	ppb	4	7 - 7	D	111 - 111		
				Average Recovery:			111	Std. Dev.: 0.0	
	PH10.2PPM CL	40 - 40	ppb	4	7 - 7	D	86 - 93		
				Average Recovery:			90	Std. Dev.: 3.5	
	PH2. 0PPM CL	40 - 40	ppb	4	7 - 7	D	85 - 91		
				Average Recovery:			88	Std. Dev.: 3.0	
	PH2. 2PPM CL	40 - 40	ppb	4	7 - 7	D	58 - 86		
				Average Recovery:			72	Std. Dev.: 14.0	
	PH7. 0PPM CL	40 - 40	ppb	25	7 - 7	D	84 - 86		
				Average Recovery:			85	Std. Dev.: 1.0	
	PH7. 2PPM CL	40 - 40	ppb	25	7 - 7	D	79 - 97		
				Average Recovery:			88	Std. Dev.: 9.0	

Figure A-8 Analyte Recovery of C-18 Column for Base Neutral Extractable Compounds in Drinking/Surface Water Matrix



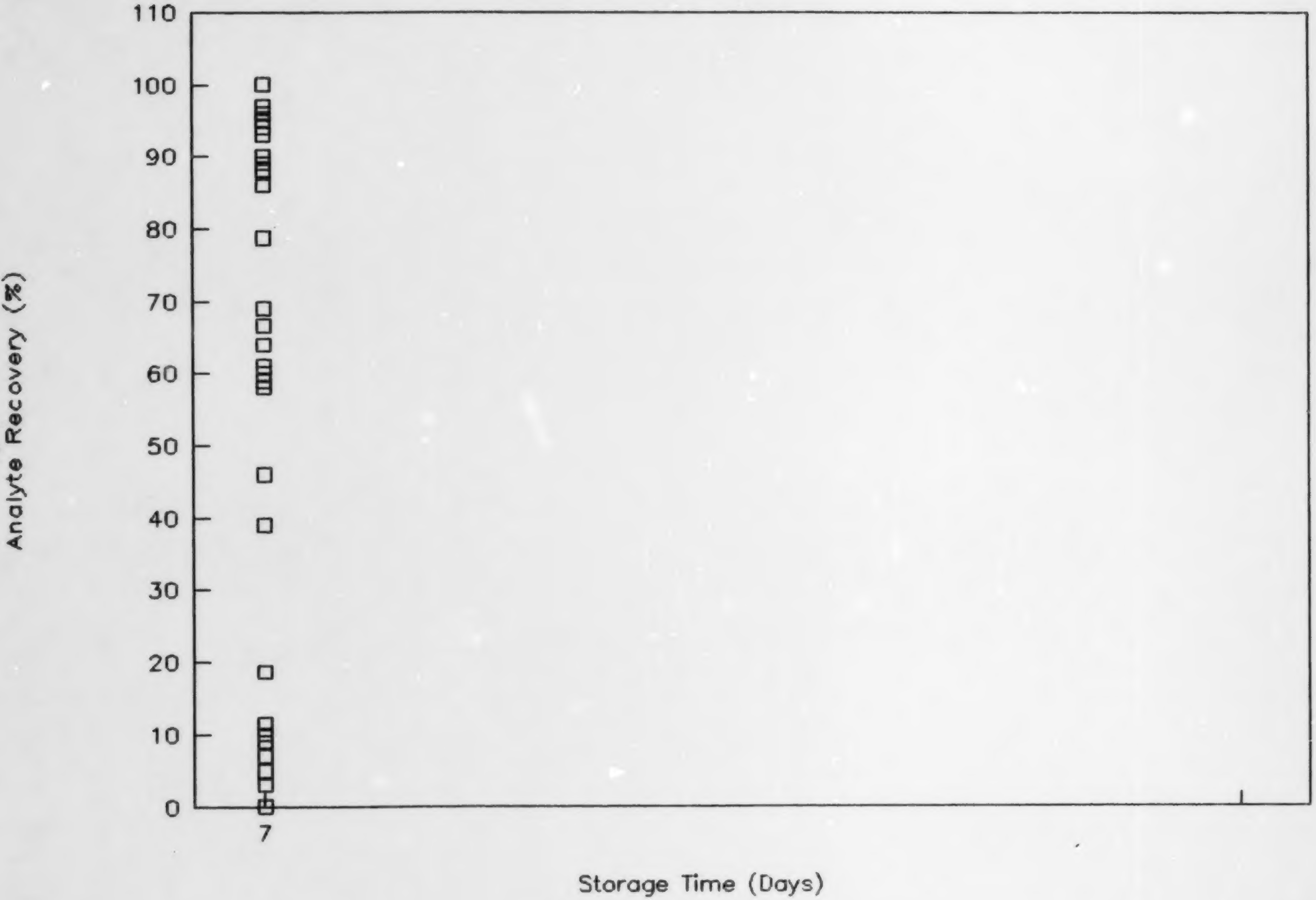
Ref: ASC 322

Figure A-9 Analyte Recovery at pH<7 with no Chlorine for Base Neutral Extractable Compounds in Drinking/Surface Water Matrix



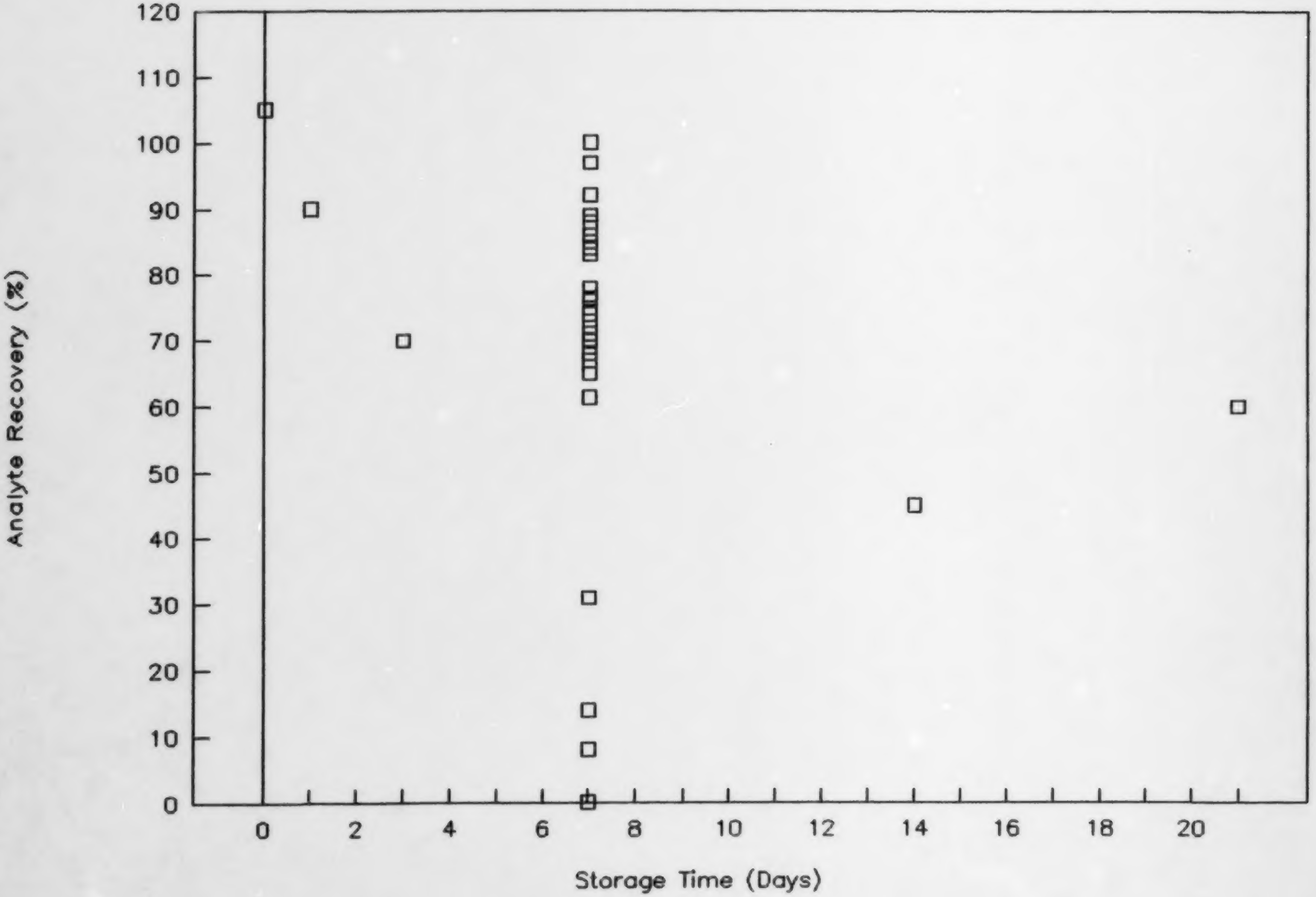
Ref: ASC 87, 88, 92, 93, 234, 302

Figure A-10 Analyte Recovery at pH<7 with 2 ppm Chlorine for Base Neutral Extractable Compounds in Drinking/Surface Water Matrix



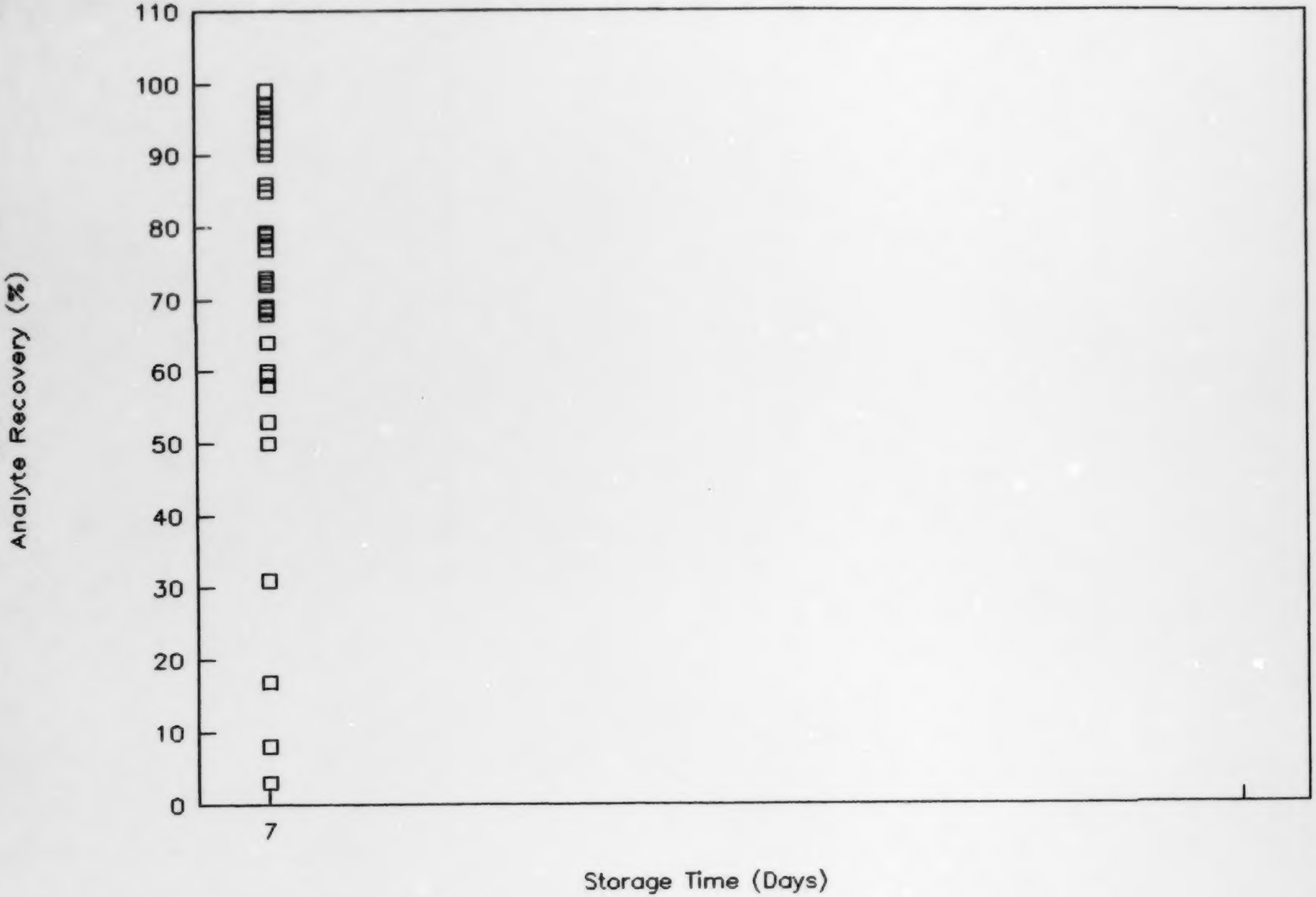
Ref: ASC 87,88,92,93

Figure A-11 Analyte Recovery at pH=7 with no Chlorine for Base Neutral Extractable Compounds in Drinking/Surface Water Matrix



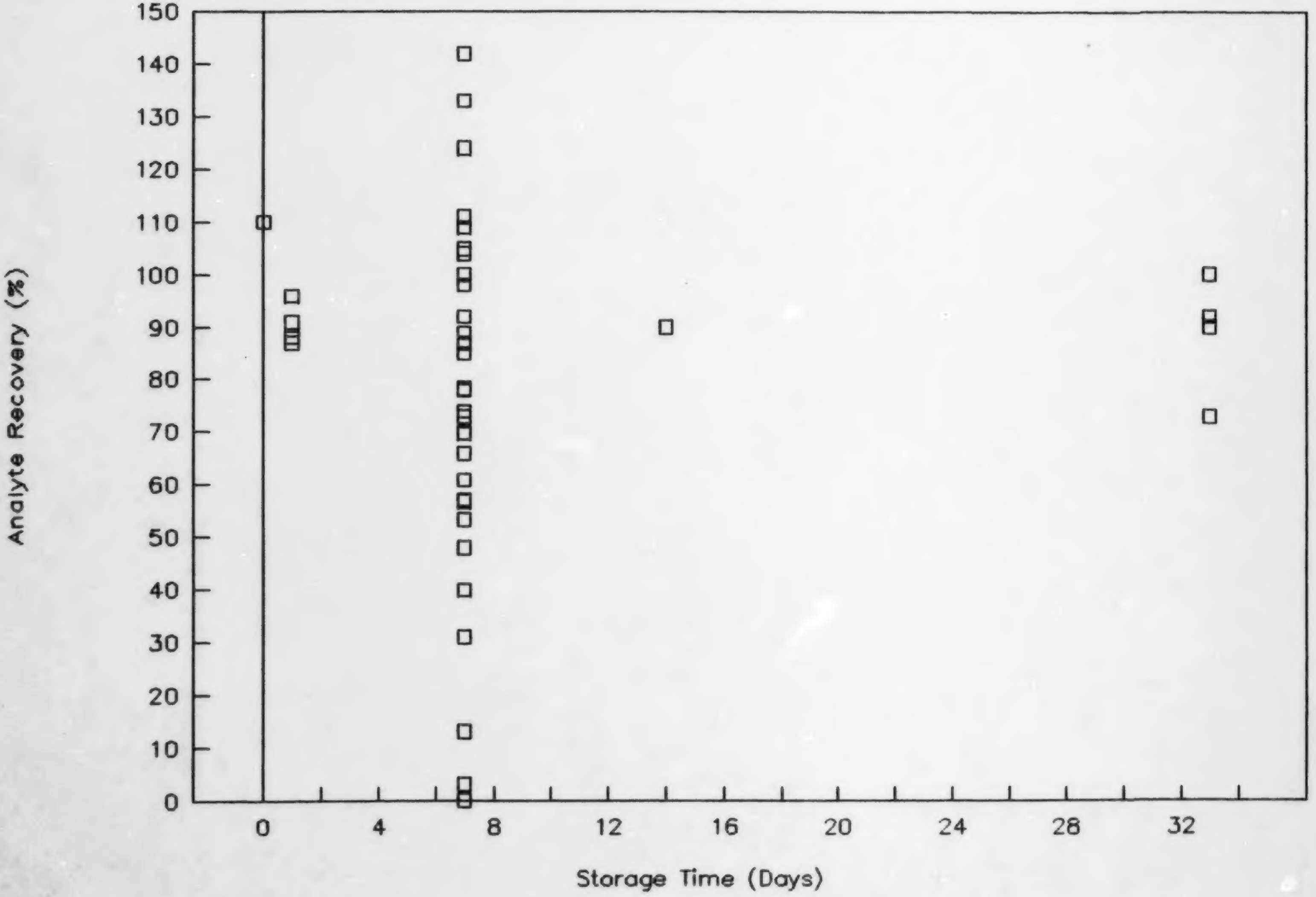
Ref: ASC 87,88, 92, 93, 234, 302

Figure A-12 Analyte Recovery at pH =7 with 2 ppm Chlorine for Base Neutral Extractable Compounds in Drinking/Surface Water Matrix



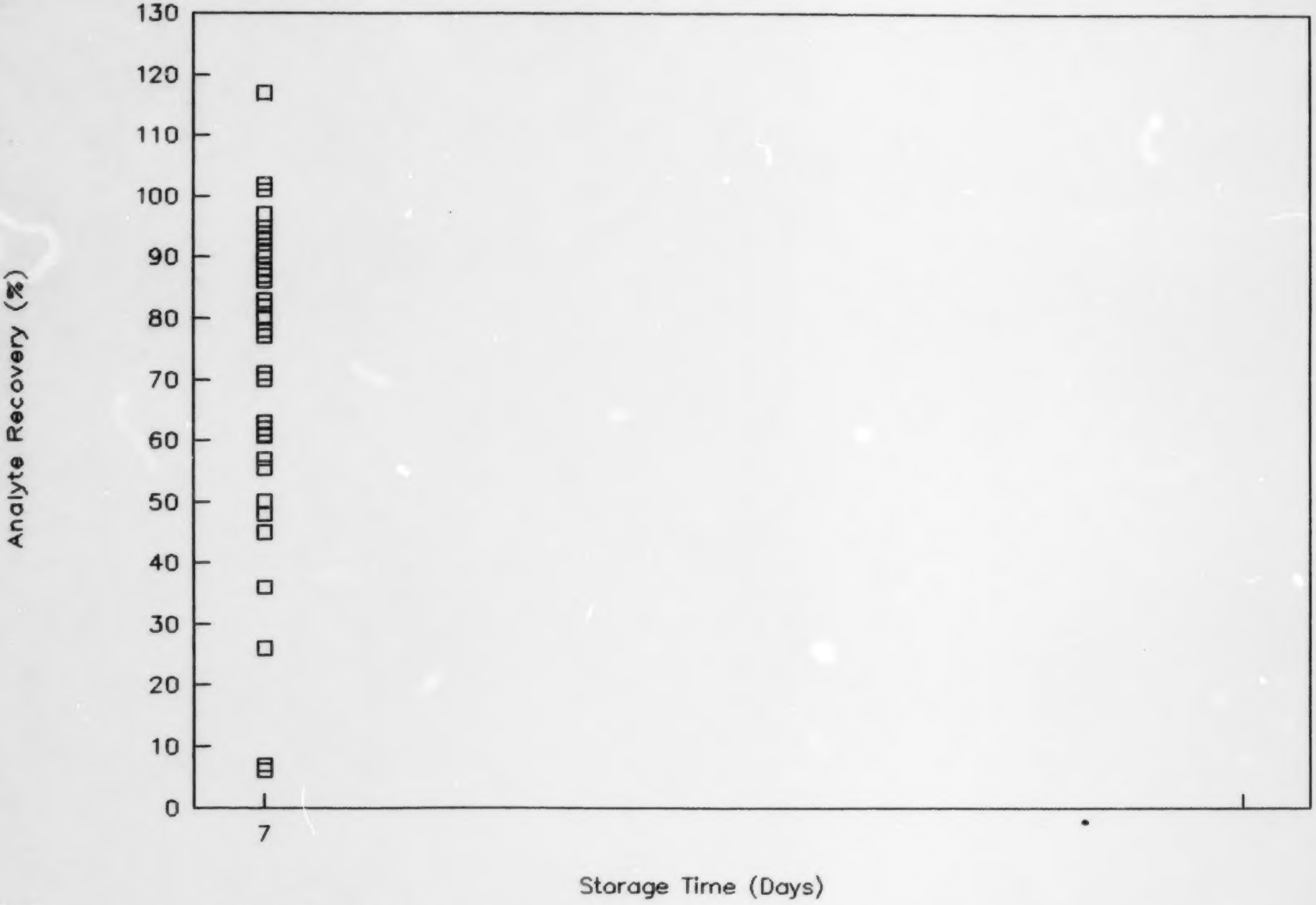
Ref: ASC 87, 88, 92, 93

Figure A-13 Analyte Recovery at pH>7 with no Chlorine for Base Neutral Extractable Compounds in Drinking/Surface Water Matrix



Ref: ASC 87, 88, 92, 93, 234, 302

Figure A-14 Analyte Recovery at pH>7 with 2 ppm Chlorine for Base Neutral Extractable Compounds in Drinking/Surface Water Matrix



Ref: ASC 87, 88, 92, 93

Matrix: Water

Class: Base-neutral Extractable Compounds

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
acenaphthylene	AG FILTERS		25	3 W	80		35
acenaphthylene	AG FILTERS		4	36 D	95		35
acenaphthylene	PH10,0PPM CL	40 ppb	4	7 D	48		87
acenaphthylene	PH10,0PPM CL	40 ppb	25	7 D	73		87
acenaphthylene	PH10,2PPM CL	40 ppb	4	7 D	57		87
acenaphthylene	PH10,2PPM CL	40 ppb	25	7 D	70		87
acenaphthylene	PH2, 0PPM CL	40 ppb	4	7 D	75		87
acenaphthylene	PH2, 0PPM CL	40 ppb	25	7 D	74		87
acenaphthylene	PH2, 2PPM CL	40 ppb	25	7 D	0		87
acenaphthylene	PH2, 2PPM CL	40 ppb	4	7 D	5		87
acenaphthylene	PH7, 0PPM CL	40 ppb	4	7 D	73		87
acenaphthylene	PH7, 0PPM CL	40 ppb	25	7 D	73		87
acenaphthylene	PH7, 2PPM CL	40 ppb	25	7 D	17		87
acenaphthylene	PH7, 2PPM CL	40 ppb	4	7 D	68		87
anthracene	C18 COLUMN	2 ng/mL	25	1 M	37.2	extract, stored in dark	322
anthracene	C18 COLUMN	2 ng/mL	25	1 W	36	extract, stored in dark	322
anthracene	C18 COLUMN	2 ng/mL	25	1 D	47.4	extract, stored in dark	322
anthracene	C18 COLUMN	2 ng/mL	25	2 M	25.5	extract, stored in dark	322
anthracene	C18 COLUMN	2 ng/mL	25	3 M	21.7	extract, stored in dark	322
anthracene	C18 COLUMN	5 ng/mL	25	1 W	57	extract, stored in dark	322
anthracene	C18 COLUMN	5 ng/mL	25	1 D	32.5	extract, stored in dark	322
anthracene	C18 COLUMN	5 ng/mL	25	1 M	42.7	extract, stored in dark	322
anthracene	C18 COLUMN	5 ng/mL	25	2 M	24.4	extract, stored in dark	322
anthracene	C18 COLUMN	5 ng/mL	25	3 M	31.5	extract, stored in dark	322
benz(a)anthracene	C18 COLUMN	100.2 ng/mL	25	1 M	73.6	extract, stored in dark	322
benz(a)anthracene	C18 COLUMN	100.2 ng/mL	25	1 W	68.2	extract, stored in dark	322
benz(a)anthracene	C18 COLUMN	100.2 ng/mL	25	1 D	85.3	extract, stored in dark	322
benz(a)anthracene	C18 COLUMN	100.2 ng/mL	25	2 M	72.3	extract, stored in dark	322
benz(a)anthracene	C18 COLUMN	100.2 ng/mL	25	3 M	71.9	extract, stored in dark	322
benz(a)anthracene	C18 COLUMN	250.5 ng/mL	25	1 D	54.2	extract, stored in dark	322
benz(a)anthracene	C18 COLUMN	250.5 ng/mL	25	1 W	76.7	extract, stored in dark	322
benz(a)anthracene	C18 COLUMN	250.5 ng/mL	25	1 M	87	extract, stored in dark	322
benz(a)anthracene	C18 COLUMN	250.5 ng/mL	25	2 M	65	extract, stored in dark	322
benz(a)anthracene	C18 COLUMN	250.5 ng/mL	25	3 M	61.9	extract, stored in dark	322
benz(a)anthracene	PH 10	40 ppb	25	7 D	74		87
benz(a)anthracene	PH 2	40 ppb	4	7 D	74		87
benz(a)anthracene	PH 2	40 ppb	25	7 D	61		87
benz(a)anthracene	PH 2, 2PPMCL	40 ppb	4	7 D	10		87
benz(a)anthracene	PH 2, 2PPMCL	40 ppb	25	7 D	9		87
benz(a)anthracene	PH 7	40 ppb	4	7 D	65		87
benz(a)anthracene	PH 7	40 ppb	25	7 D	73		87
benz(a)anthracene	PH 7, 2PPMCL	40 ppb	25	7 D	58		87
benz(a)anthracene	PH 7, 2PPMCL	40 ppb	4	7 D	64		87
benz(a)anthracene	PH10	40 ppb	4	7 D	61		87
benz(a)anthracene	PH10, 2PPMCL	40 ppb	4	7 D	63		87
benz(a)anthracene	PH10, 2PPMCL	40 ppb	25	7 D	50		87
benzo(b)chrysene	C18 COLUMN	20.8 ng/mL	25	1 D	45	extract, stored in dark	322
benzo(b)chrysene	C18 COLUMN	20.8 ng/mL	25	1 W	36	extract, stored in dark	322
benzo(b)chrysene	C18 COLUMN	20.8 ng/mL	25	1 M	31.6	extract, stored in dark	322

Matrix: Water

Class: Base-neutral Extractable Compounds

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
benzo(b)chrysene	C18 COLUMN	20.8 ng/mL	25	2 M	30.5	extract, stored in dark	322
benzo(b)chrysene	C18 COLUMN	20.8 ng/mL	25	3 M	31.4	extract, stored in dark	322
benzo(b)chrysene	C18 COLUMN	52 ng/mL	25	1 D	36.6	extract, stored in dark	322
benzo(b)chrysene	C18 COLUMN	52 ng/mL	25	1 M	30.5	extract, stored in dark	322
benzo(b)chrysene	C18 COLUMN	52 ng/mL	25	1 W	30.6	extract, stored in dark	322
benzo(b)chrysene	C18 COLUMN	52 ng/mL	25	2 M	25	extract, stored in dark	322
benzo(b)chrysene	C18 COLUMN	52 ng/mL	25	3 M	27.1	extract, stored in dark	322
benzo(k)fluoranthene	C18 COLUMN	10 ng/mL	25	1 D	66	extract, stored in dark	322
benzo(k)fluoranthene	C18 COLUMN	10 ng/mL	25	1 W	57	extract, stored in dark	322
benzo(k)fluoranthene	C18 COLUMN	10 ng/mL	25	1 M	55.1	extract, stored in dark	322
benzo(k)fluoranthene	C18 COLUMN	10 ng/mL	25	2 M	64.4	extract, stored in dark	322
benzo(k)fluoranthene	C18 COLUMN	10 ng/mL	25	3 M	56.6	extract, stored in dark	322
benzo(j)fluoranthene	C18 COLUMN	1251 ng/mL	25	1 M	58.5	extract, stored in dark	322
benzo(j)fluoranthene	C18 COLUMN	1251 ng/mL	25	1 D	76.5	extract, stored in dark	322
benzo(j)fluoranthene	C18 COLUMN	1251 ng/mL	25	1 W	47.9	extract, stored in dark	322
benzo(j)fluoranthene	C18 COLUMN	1251 ng/mL	25	2 M	59.9	extract, stored in dark	322
benzo(j)fluoranthene	C18 COLUMN	1251 ng/mL	25	3 M	51.8	extract, stored in dark	322
benzo(b)fluoranthene	C18 COLUMN	248 ng/mL	25	1 D	58	extract, stored in dark	322
benzo(b)fluoranthene	C18 COLUMN	248 ng/mL	25	1 W	46.7	extract, stored in dark	322
benzo(b)fluoranthene	C18 COLUMN	248 ng/mL	25	1 M	51	extract, stored in dark	322
benzo(b)fluoranthene	C18 COLUMN	248 ng/mL	25	2 M	49.6	extract, stored in dark	322
benzo(b)fluoranthene	C18 COLUMN	248 ng/mL	25	3 M	40.8	extract, stored in dark	322
benzo(k)fluoranthene	C18 COLUMN	25 ng/mL	25	1 W	49.8	extract, stored in dark	322
benzo(k)fluoranthene	C18 COLUMN	25 ng/mL	25	1 M	56.2	extract, stored in dark	322
benzo(k)fluoranthene	C18 COLUMN	25 ng/mL	25	1 D	67.2	extract, stored in dark	322
benzo(k)fluoranthene	C18 COLUMN	25 ng/mL	25	2 M	49.5	extract, stored in dark	322
benzo(k)fluoranthene	C18 COLUMN	25 ng/mL	25	3 M	46.8	extract, stored in dark	322
benzo(j)fluoranthene	C18 COLUMN	500.4 ng/mL	25	1 D	81.3	extract, stored in dark	322
benzo(j)fluoranthene	C18 COLUMN	500.4 ng/mL	25	1 M	69.7	extract, stored in dark	322
benzo(j)fluoranthene	C18 COLUMN	500.4 ng/mL	25	1 W	64	extract, stored in dark	322
benzo(j)fluoranthene	C18 COLUMN	500.4 ng/mL	25	2 M	72.5	extract, stored in dark	322
benzo(j)fluoranthene	C18 COLUMN	500.4 ng/mL	25	3 M	60	extract, stored in dark	322
benzo(b)fluoranthene	C18 COLUMN	99.2 ng/mL	25	1 M	50	extract, stored in dark	322
benzo(b)fluoranthene	C18 COLUMN	99.2 ng/mL	25	1 W	53.3	extract, stored in dark	322
benzo(b)fluoranthene	C18 COLUMN	99.2 ng/mL	25	1 D	69.1	extract, stored in dark	322
benzo(b)fluoranthene	C18 COLUMN	99.2 ng/mL	25	2 M	58.7	extract, stored in dark	322
benzo(b)fluoranthene	C18 COLUMN	99.2 ng/mL	25	3 M	47.2	extract, stored in dark	322
benzo(g,h,i)perylene	C18 COLUMN	198 ng/mL	25	1 D	49.7	extract, stored in dark	322
benzo(g,h,i)perylene	C18 COLUMN	198 ng/mL	25	1 M	45.9	extract, stored in dark	322
benzo(g,h,i)perylene	C18 COLUMN	198 ng/mL	25	1 W	44.5	extract, stored in dark	322
benzo(g,h,i)perylene	C18 COLUMN	198 ng/mL	25	2 M	44	extract, stored in dark	322
benzo(g,h,i)perylene	C18 COLUMN	198 ng/mL	25	3 M	37.8	extract, stored in dark	322
benzo(g,h,i)perylene	C18 COLUMN	495 ng/mL	25	1 W	39.8	extract, stored in dark	322
benzo(g,h,i)perylene	C18 COLUMN	495 ng/mL	25	1 D	43.3	extract, stored in dark	322
benzo(g,h,i)perylene	C18 COLUMN	495 ng/mL	25	1 M	41.8	extract, stored in dark	322
benzo(g,h,i)perylene	C18 COLUMN	495 ng/mL	25	2 M	35.4	extract, stored in dark	322
benzo(g,h,i)perylene	C18 COLUMN	495 ng/mL	25	3 M	38.6	extract, stored in dark	322
benzo(a)pyrene	C18 COLUMN	149 ng/mL	25	1 M	41.7	extract, stored in dark	322
benzo(a)pyrene	C18 COLUMN	149 ng/mL	25	1 D	55.4	extract, stored in dark	322

Matrix: Water

Class: Base-neutral Extractable Compounds

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
benzo(a)pyrene	C18 COLUMN	149 ng/mL	25	1 W	39.5	extract, stored in dark	322
benzo(a)pyrene	C18 COLUMN	149 ng/mL	25	2 M	31.1	extract, stored in dark	322
benzo(a)pyrene	C18 COLUMN	149 ng/mL	25	3 M	26.3	extract, stored in dark	322
benzo(e)pyrene	C18 COLUMN	200 ng/mL	25	1 M	82.7	extract, stored in dark	322
benzo(e)pyrene	C18 COLUMN	200 ng/mL	25	1 D	63.3	extract, stored in dark	322
benzo(e)pyrene	C18 COLUMN	200 ng/mL	25	1 W	64	extract, stored in dark	322
benzo(e)pyrene	C18 COLUMN	200 ng/mL	25	2 M	77.8	extract, stored in dark	322
benzo(e)pyrene	C18 COLUMN	200 ng/mL	25	3 M	83.3	extract, stored in dark	322
benzo(e)pyrene	C18 COLUMN	500 ng/mL	25	1 D	76.5	extract, stored in dark	322
benzo(e)pyrene	C18 COLUMN	500 ng/mL	25	1 M	58.5	extract, stored in dark	322
benzo(e)pyrene	C18 COLUMN	500 ng/mL	25	1 W	47.9	extract, stored in dark	322
benzo(e)pyrene	C18 COLUMN	500 ng/mL	25	2 M	66.6	extract, stored in dark	322
benzo(e)pyrene	C18 COLUMN	500 ng/mL	25	3 M	60.7	extract, stored in dark	322
benzo(a)pyrene	C18 COLUMN	59.6 ng/mL	25	1 W	39.3	extract, stored in dark	322
benzo(a)pyrene	C18 COLUMN	59.6 ng/mL	25	1 D	52.9	extract, stored in dark	322
benzo(a)pyrene	C18 COLUMN	59.6 ng/mL	25	1 M	42.8	extract, stored in dark	322
benzo(a)pyrene	C18 COLUMN	59.6 ng/mL	25	2 M	45.3	extract, stored in dark	322
benzo(a)pyrene	C18 COLUMN	59.6 ng/mL	25	3 M	36.5	extract, stored in dark	322
bis(2-chloroethyl)ether	PH 10		4	7 D	69.8		92
bis(2-chloroethyl)ether	PH 10		24	7 D	53.4		92
bis(2-chloroethyl)ether	PH 10,2PPMCL		24	7 D	80.2		92
bis(2-chloroethyl)ether	PH 10,2PPMCL		4	7 D	55.5		92
bis(2-chloroethyl)ether	PH 2		24	7 D	76.6		92
bis(2-chloroethyl)ether	PH 2		4	7 D	61.7		92
bis(2-chloroethyl)ether	PH 2, 2PPMCL		4	7 D	78.66		92
bis(2-chloroethyl)ether	PH 2, 2PPMCL		24	7 D	66.6		92
bis(2-chloroethyl)ether	PH 7		24	7 D	61.4		92
bis(2-chloroethyl)ether	PH 7		4	7 D	66.9		92
bis(2-chloroethyl)ether	PH 7, 2PPMCL		24	7 D	68.7		92
bis(2-chloroethyl)ether	PH 7, 2PPMCL		4	7 D	59.4		92
4-bromophenyl phenyl ether	PH 10		24	7 D	57.3		92
4-bromophenyl phenyl ether	PH 10		4	7 D	78.4		92
4-bromophenyl phenyl ether	PH 10,2PPMCL		24	7 D	77.1		92
4-bromophenyl phenyl ether	PH 10,2PPMCL		4	7 D	60.8		92
4-bromophenyl phenyl ether	PH 2		4	7 D	90.6		92
4-bromophenyl phenyl ether	PH 2		24	7 D	91.9		92
4-bromophenyl phenyl ether	PH 2, 2PPMCL		4	7 D	18.7		92
4-bromophenyl phenyl ether	PH 2, 2PPMCL		24	7 D	11.5		92
4-bromophenyl phenyl ether	PH 7		24	7 D	76.5		92
4-bromophenyl phenyl ether	PH 7		4	7 D	87.9		92
4-bromophenyl phenyl ether	PH 7, 2PPMCL		24	7 D	72.5		92
4-bromophenyl phenyl ether	PH 7, 2PPMCL		4	7 D	79.3		92
benzyl butyl phthalste	PH 10		4	7 D	74		93
benzyl butyl phthalate	PH 10		24	7 D	40		93
benzyl butyl phthalate	PH 10,2PPMCL		24	7 D	36		93
benzyl butyl phthalate	PH 10,2PPMCL		4	7 D	82		93
benzyl butyl phthalate	PH 2		4	7 D	97		93
benzyl butyl phthalate	PH 2		24	7 D	90		93
benzyl butyl phthalate	PH 2, 2PPMCL		4	7 D	95		93

Matrix: Water Class: Base-neutral Extractable Compounds

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
benzyl butyl phthalate	PH 2, 2PPMCL		24	7 D	94		93
benzyl butyl phthalate	PH 7		24	7 D	73		93
benzyl butyl phthalate	PH 7		4	7 D	73		93
benzyl butyl phthalate	PH 7, 2PPMCL		24	7 D	69		93
benzyl butyl phthalate	PH 7, 2PPMCL		4	7 D	77		93
2-chloronaphthalene	PH=2	40 ug/L	4	0 D	115		302
2-chloronaphthalene	PH=2	40 ug/L	4	7 D	75		302
2-chloronaphthalene	PH=2	40 ug/L	4	14 D	87		302
2-chloronaphthalene	PH=7	40 ug/L	4	0 D	105		302
2-chloronaphthalene	PH=7	40 ug/L	4	1 D	90		302
2-chloronaphthalene	PH=7	40 ug/L	4	3 D	70		302
2-chloronaphthalene	PH=7	40 ug/L	4	7 D	65		302
2-chloronaphthalene	PH=7	40 ug/L	4	14 D	45		302
2-chloronaphthalene	PH=7	40 ug/L	4	21 D	60		302
2-chloronaphthalene	PH=9	40 ug/L	4	0 D	110		302
2-chloronaphthalene	PH=9	40 ug/L	4	7 D	105		302
2-chloronaphthalene	PH=9	40 ug/L	4	14 D	90		302
chrysene	C18 COLUMN	196 ng/mL	25	1 M	75.5	extract, stored in dark	322
chrysene	C18 COLUMN	195 ng/mL	25	1 W	75.9	extract, stored in dark	322
chrysene	C18 COLUMN	196 ng/mL	25	1 D	86.1	extract, stored in dark	322
chrysene	C18 COLUMN	196 ng/mL	25	2 M	85.4	extract, stored in dark	322
chrysene	C18 COLUMN	196 ng/mL	25	3 M	88.8	extract, stored in dark	322
chrysene	C18 COLUMN	490 ng/mL	25	1 W	59.8	extract, stored in dark	322
chrysene	C18 COLUMN	490 ng/mL	25	1 M	65.7	extract, stored in dark	322
chrysene	C18 COLUMN	490 ng/mL	25	1 D	81.8	extract, stored in dark	322
chrysene	C18 COLUMN	490 ng/mL	25	2 M	66	extract, stored in dark	322
chrysene	C18 COLUMN	490 ng/mL	25	3 M	61.2	extract, stored in dark	322
chrysene	PH10,0PPM CL	40 ppb	25	7 D	109		87
chrysene	PH10,0PPM CL	40 ppb	4	7 D	105		87
chrysene	PH10,2PPM CL	40 ppb	4	7 D	95		87
chrysene	PH10,2PPM CL	40 ppb	25	7 D	91		87
chrysene	PH2, 0PPM CL	40 ppb	4	7 D	79		87
chrysene	PH2, 0PPM CL	40 ppb	25	7 D	63		87
chrysene	PH2, 2PPM CL	40 ppb	25	7 D	88		87
chrysene	PH2, 2PPM CL	40 ppb	4	7 D	39		87
chrysene	PH7, 0PPM CL	40 ppb	4	7 D	83		87
chrysene	PH7, 0PPM CL	40 ppb	25	7 D	84		87
chrysene	PH7, 2PPM CL	40 ppb	25	7 D	53		87
chrysene	PH7, 2PPM CL	40 ppb	4	7 D	77		87
coronene	C18 COLUMN	247.5 ng/mL	25	1 D	27.9	extract, stored in dark	322
coronene	C18 COLUMN	247.5 ng/mL	25	1 W	38.5	extract, stored in dark	322
coronene	C18 COLUMN	247.5 ng/mL	25	1 M	37.3	extract, stored in dark	322
coronene	C18 COLUMN	247.5 ng/mL	25	2 M	35.2	extract, stored in dark	322
coronene	C18 COLUMN	247.5 ng/mL	25	3 M	30.3	extract, stored in dark	322
coronene	C18 COLUMN	99 ng/mL	25	1 M	32.2	extract, stored in dark	322
coronene	C18 COLUMN	99 ng/mL	25	1 W	36.7	extract, stored in dark	322
coronene	C18 COLUMN	99 ng/mL	25	1 D	32.1	extract, stored in dark	322
coronene	C18 COLUMN	99 ng/mL	25	2 M	40	extract, stored in dark	322
coronene	C18 COLUMN	99 ng/mL	25	3 M	34.9	extract, stored in dark	322

Matrix: Water Class: Base-neutral Extractable Compounds

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
dibenz(a,h)anthracene	C18 COLUMN	247.5 ng/mL	25	1 D	48.7	extract, stored in dark	322
dibenz(a,h)anthracene	C18 COLUMN	247.5 ng/mL	25	1 W	40.8	extract, stored in dark	322
dibenz(a,h)anthracene	C18 COLUMN	247.5 ng/mL	25	1 M	33.6	extract, stored in dark	322
dibenz(a,h)anthracene	C18 COLUMN	247.5 ng/mL	25	2 M	35.6	extract, stored in dark	322
dibenz(a,h)anthracene	C18 COLUMN	247.5 ng/mL	25	3 M	34.6	extract, stored in dark	322
dibenz(a,h)anthracene	C18 COLUMN	59 ng/mL	25	1 D	57.3	extract, stored in dark	322
dibenz(a,h)anthracene	C18 COLUMN	59 ng/mL	25	1 W	45.3	extract, stored in dark	322
dibenz(a,h)anthracene	C18 COLUMN	59 ng/mL	25	1 M	43.6	extract, stored in dark	322
dibenz(a,h)anthracene	C18 COLUMN	59 ng/mL	25	2 M	46.8	extract, stored in dark	322
dibenz(a,h)anthracene	C18 COLUMN	59 ng/mL	25	3 M	39.9	extract, stored in dark	322
dibenz(a,h)anthracene	PH10,0PPM CL	40 ppb	4	7 D	105		87
dibenz(a,h)anthracene	PH10,0PPM CL	40 ppb	25	7 D	124		87
dibenz(a,h)anthracene	PH10,2PPM CL	40 ppb	4	7 D	90		87
dibenz(a,h)anthracene	PH10,2PPM CL	40 ppb	25	7 D	88		87
dibenz(a,h)anthracene	PH2, 0PPM CL	40 ppb	4	7 D	75		87
dibenz(a,h)anthracene	PH2, 0PPM CL	40 ppb	25	7 D	73		87
dibenz(a,h)anthracene	PH2, 2PPM CL	40 ppb	25	7 D	88		87
dibenz(a,h)anthracene	PH2, 2PPM CL	40 ppb	4	7 D	61		87
dibenz(a,h)anthracene	PH7, 0PPM CL	40 ppb	25	7 D	74		87
dibenz(a,h)anthracene	PH7, 0PPM CL	40 ppb	4	7 D	70		87
dibenz(a,h)anthracene	PH7, 2PPM CL	40 ppb	25	7 D	78		87
dibenz(a,h)anthracene	PH7, 2PPM CL	40 ppb	4	7 D	60		87
di-n-butylphthalate		4420 ug/L	25	12	90	time in hrs., seawater	36
di-n-butylphthalate	PH 10		4	7 D	92		93
di-n-butylphthalate	PH 10		24	7 D	78		93
di-n-butylphthalate	PH 10,2PPMCL		24	7 D	70		93
di-n-butylphthalate	PH 10,2PPMCL		4	7 D	95		93
di-n-butylphthalate	PH 2		4	7 D	79		93
di-n-butylphthalate	PH 2		24	7 D	88		93
di-n-butylphthalate	PH 2, 2PPMCL		4	7 D	89		93
di-n-butylphthalate	PH 2, 2PPMCL		24	7 D	90		93
di-n-butylphthalate	PH 7		24	7 D	92		93
di-n-butylphthalate	PH 7		4	7 D	85		93
di-n-butylphthalate	PH 7, 2PPMCL		24	7 D	90		93
di-n-butylphthalate	PH 7, 2PPMCL		4	7 D	90		93
dimethylbenz(a)anthracene	C18 COLUMN	100.8 ng/mL	25	1 D	86.2	extract, stored in dark	322
dimethylbenz(a)anthracene	C18 COLUMN	100.8 ng/mL	25	1 W	91.4	extract, stored in dark	322
dimethylbenz(a)anthracene	C18 COLUMN	100.8 ng/mL	25	1 M	74.3	extract, stored in dark	322
dimethylbenz(a)anthracene	C18 COLUMN	100.8 ng/mL	25	2 M	61.1	extract, stored in dark	322
dimethylbenz(a)anthracene	C18 COLUMN	100.8 ng/mL	25	3 M	43	extract, stored in dark	322
dimethylbenz(a)anthracene	C18 COLUMN	252 ng/mL	25	1 D	31.7	extract, stored in dark	322
dimethylbenz(a)anthracene	C18 COLUMN	252 ng/mL	25	1 W	47.9	extract, stored in dark	322
dimethylbenz(a)anthracene	C18 COLUMN	252 ng/mL	25	1 M	57.3	extract, stored in dark	322
dimethylbenz(a)anthracene	C18 COLUMN	252 ng/mL	25	2 M	47	extract, stored in dark	322
dimethylbenz(a)anthracene	C18 COLUMN	252 ng/mL	25	3 M	54	extract, stored in dark	322
2,4-dinitrotoluene	PH=0.5	10 ppb		1 D	93		234
2,4-dinitrotoluene	PH=0.5	10 ppb		33 D	98		234
2,4-dinitrotoluene	PH=1.4	10 ppb		1 D	96		234
2,4-dinitrotoluene	PH=1.4	10 ppb		33 D	93		234

Matrix: Water Class: Base-neutral Extractable Compounds

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
2,4-dinitrotoluene	PH=10.3	10 ppb		1 D	88		234
2,4-dinitrotoluene	PH=10.3	10 ppb		33 D	73		234
2,4-dinitrotoluene	PH=2.9	10 ppb		1 D	89		234
2,4-dinitrotoluene	PH=2.9	10 ppb		33 D	86		234
2,4-dinitrotoluene	PH=3.8	10 ppb		1 D	98		234
2,4-dinitrotoluene	PH=3.8	10 ppb		33 D	99		234
2,4-dinitrotoluene	PH=6.0	10 ppb		1 D	92		234
2,4-dinitrotoluene	PH=6.0	10 ppb		33 D	96		234
2,4-dinitrotoluene	PH=7.9	10 ppb		1 D	96		234
2,4-dinitrotoluene	PH=7.9	10 ppb		33 D	100		234
2,6-dinitrotoluene	PH=.5	10 ppb		1 D	89		234
2,6-dinitrotoluene	PH=0.5	10 ppb		33 D	92		234
2,6-dinitrotoluene	PH=1.4	10 ppb		1 D	98		234
2,6-dinitrotoluene	PH=1.4	10 ppb		33 D	98		234
2,6-dinitrotoluene	PH=10.3	10 ppb		1 D	91		234
2,6-dinitrotoluene	PH=10.3	10 ppb		33 D	92		234
2,6-dinitrotoluene	PH=2.9	10 ppb		1 D	91		234
2,6-dinitrotoluene	PH=2.9	10 ppb		33 D	88		234
2,6-dinitrotoluene	PH=3.8	10 ppb		1 D	95		234
2,6-dinitrotoluene	PH=3.8	10 ppb		33 D	94		234
2,6-dinitrotoluene	PH=6.0	10 ppb		1 D	88		234
2,6-dinitrotoluene	PH=6.0	10 ppb		33 D	94		234
2,6-dinitrotoluene	PH=7.9	10 ppb		1 D	87		234
2,6-dinitrotoluene	PH=7.9	10 ppb		33 D	90		234
di-n-octylphthalate	PH 10		4	7 D	85		93
di-n-octylphthalate	PH 10		24	7 D	85		93
di-n-octylphthalate	PH 10,2PPMCL		4	7 D	78		93
di-n-octylphthalate	PH 10,2PPMCL		24	7 D	87		93
di-n-octylphthalate	PH 2		4	7 D	100		93
di-n-octylphthalate	PH 2		24	7 D	92		93
di-n-octylphthalate	PH 2, 2PPMCL		24	7 D	93		93
di-n-octylphthalate	PH 2, 2PPMCL		4	7 D	97		93
di-n-octylphthalate	PH 7		4	7 D	92		93
di-n-octylphthalate	PH 7		24	7 D	69		93
di-n-octylphthalate	PH 7, 2PPMCL		4	7 D	91		93
di-n-octylphthalate	PH 7, 2PPMCL		24	7 D	96		93
bis-(2-ethylhexyl)-phthalate		229 ug/L	25	12	65	time in hrs., seawater	36
bis-(2-ethylhexyl)-phthalate		407 ug/L	25	12	71	time in hrs., seawater	36
bis-(2-ethylhexyl)-phthalate	PH 10		4	7 D	89		93
bis-(2-ethylhexyl)-phthalate	PH 10		24	7 D	92		93
bis-(2-ethylhexyl)-phthalate	PH 10,2PPMCL		24	7 D	94		93
bis-(2-ethylhexyl)-phthalate	PH 10,2PPMCL		4	7 D	80		93
bis-(2-ethylhexyl)-phthalate	PH 2		4	7 D	100		93
bis-(2-ethylhexyl)-phthalate	PH 2		24	7 D	100		93
bis-(2-ethylhexyl)-phthalate	PH 2, 2PPMCL		4	7 D	96		93
bis-(2-ethylhexyl)-phthalate	PH 2, 2PPMCL		24	7 D	96		93
bis-(2-ethylhexyl)-phthalate	PH 7		24	7 D	100		93
bis-(2-ethylhexyl)-phthalate	PH 7		4	7 D	88		93
bis-(2-ethylhexyl)-phthalate	PH 7, 2PPMCL		24	7 D	95		93

Matrix: Water

Class: Base-neutral Extractable Compounds

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
bis-(2-ethylhexyl)-phthalate	PH 7, 2PPMCL		4	7 D	86		93
fluoranthene	C18 COLUMN	100 ng/mL	25	1 M	82	extract, stored in dark	322
fluoranthene	C18 COLUMN	100 ng/mL	25	1 W	71.2	extract, stored in dark	322
fluoranthene	C18 COLUMN	100 ng/mL	25	1 D	84.2	extract, stored in dark	322
fluoranthene	C18 COLUMN	100 ng/mL	25	2 M	83.7	extract, stored in dark	322
fluoranthene	C18 COLUMN	100 ng/mL	25	3 M	79.9	extract, stored in dark	322
fluoranthene	C18 COLUMN	250 ng/mL	25	1 M	80.5	extract, stored in dark	322
fluoranthene	C18 COLUMN	250 ng/mL	25	1 D	83	extract, stored in dark	322
fluoranthene	C18 COLUMN	250 ng/mL	25	1 W	75.7	extract, stored in dark	322
fluoranthene	C18 COLUMN	250 ng/mL	25	2 M	82.4	extract, stored in dark	322
fluoranthene	C18 COLUMN	250 ng/mL	25	3 M	83.6	extract, stored in dark	322
fluorene	PH10,0PPM CL	40 ppb	25	7 D	70		87
fluorene	PH10,0PPM CL	40 ppb	4	7 D	57		87
fluorene	PH10,2PPM CL	40 ppb	4	7 D	71		87
fluorene	PH10,2PPM CL	40 ppb	25	7 D	48		87
fluorene	PH2, 0PPM CL	40 ppb	25	7 D	73		87
fluorene	PH2, 0PPM CL	40 ppb	4	7 D	80		87
fluorene	PH2, 2PPM CL	40 ppb	4	7 D	69		87
fluorene	PH2, 2PPM CL	40 ppb	25	7 D	64		87
fluorene	PH7, 0PPM CL	40 ppb	25	7 D	76		87
fluorene	PH7, 0PPM CL	40 ppb	4	7 D	68		87
fluorene	PH7, 2PPM CL	40 ppb	4	7 D	73		87
fluorene	PH7, 2PPM CL	40 ppb	25	7 D	50		87
indeno(1,2,3-cd)pyrene	C18 COLUMN	137.5 ng/mL	25	1 D	42.1	extract, stored in dark	322
indeno(1,2,3-cd)pyrene	C18 COLUMN	137.5 ng/mL	25	1 W	46.9	extract, stored in dark	322
indeno(1,2,3-cd)pyrene	C18 COLUMN	137.5 ng/mL	25	1 M	56.7	extract, stored in dark	322
indeno(1,2,3-cd)pyrene	C18 COLUMN	137.5 ng/mL	25	2 M	42.8	extract, stored in dark	322
indeno(1,2,3-cd)pyrene	C18 COLUMN	137.5 ng/mL	25	3 M	39	extract, stored in dark	322
indeno(1,2,3-cd)pyrene	C18 COLUMN	55 ng/mL	25	1 M	50	extract, stored in dark	322
indeno(1,2,3-cd)pyrene	C18 COLUMN	55 ng/mL	25	1 D	67.7	extract, stored in dark	322
indeno(1,2,3-cd)pyrene	C18 COLUMN	55 ng/mL	25	1 W	41.3	extract, stored in dark	322
indeno(1,2,3-cd)pyrene	C18 COLUMN	55 ng/mL	25	2 M	54.3	extract, stored in dark	322
indeno(1,2,3-cd)pyrene	C18 COLUMN	55 ng/mL	25	3 M	50.1	extract, stored in dark	322
indeno(1,2,3-cd)pyrene	PH10,0PPM CL	40 ppb	4	7 D	133		87
indeno(1,2,3-cd)pyrene	PH10,0PPM CL	40 ppb	25	7 D	142		87
indeno(1,2,3-cd)pyrene	PH10,2PPM CL	40 ppb	4	7 D	102		87
indeno(1,2,3-cd)pyrene	PH10,2PPM CL	40 ppb	25	7 D	117		87
indeno(1,2,3-cd)pyrene	PH2, 0PPM CL	40 ppb	25	7 D	77		87
indeno(1,2,3-cd)pyrene	PH2, 0PPM CL	40 ppb	4	7 D	75		87
indeno(1,2,3-cd)pyrene	PH2, 2PPM CL	40 ppb	4	7 D	46		87
indeno(1,2,3-cd)pyrene	PH2, 2PPM CL	40 ppb	25	7 D	88		87
indeno(1,2,3-cd)pyrene	PH7, 0PPM CL	40 ppb	4	7 D	78		87
indeno(1,2,3-cd)pyrene	PH7, 0PPM CL	40 ppb	25	7 D	75		87
indeno(1,2,3-cd)pyrene	PH7, 2PPM CL	40 ppb	25	7 D	85		87
indeno(1,2,3-cd)pyrene	PH7, 2PPM CL	40 ppb	4	7 D	73		87
2-methylnaphthalene	AG FILTERS		4	36 D	95		35
naphthalene	C18 COLUMN	1000 ng/mL	25	1 M	0	extract, stored in dark	322
naphthalene	C18 COLUMN	1000 ng/mL	25	1 W	0	extract, stored in dark	322
naphthalene	C18 COLUMN	1000 ng/mL	25	1 D	0	extract, stored in dark	322

Matrix: Water

Class: Base-neutral Extractable Compounds

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
naphthalene	C18 COLUMN	1000 ng/mL	25	2 M	5.2	extract, stored in dark	322
naphthalene	C18 COLUMN	1000 ng/mL	25	3 M	0	extract, stored in dark	322
naphthalene	C18 COLUMN	2500 ng/mL	25	1 M	0	extract, stored in dark	322
naphthalene	C18 COLUMN	2500 ng/mL	25	1 D	0	extract, stored in dark	322
naphthalene	C18 COLUMN	2500 ng/mL	25	1 W	5.4	extract, stored in dark	322
naphthalene	C18 COLUMN	2500 ng/mL	25	2 M	0	extract, stored in dark	322
naphthalene	C18 COLUMN	2500 ng/mL	25	3 M	4.7	extract, stored in dark	322
naphthalene	PH10,0PPM CL	40 ppb	4	7 D	111		87
naphthalene	PH10,0PPM CL	40 ppb	25	7 D	104		87
naphthalene	PH10,2PPM CL	40 ppb	25	7 D	83		87
naphthalene	PH10,2PPM CL	40 ppb	4	7 D	101		87
naphthalene	PH2, 0PPM CL	40 ppb	4	7 D	81		87
naphthalene	PH2, 0PPM CL	40 ppb	25	7 D	77		87
naphthalene	PH2, 2PPM CL	40 ppb	4	7 D	61		87
naphthalene	PH2, 2PPM CL	40 ppb	25	7 D	89		87
naphthalene	PH7, 0PPM CL	40 ppb	25	7 D	0		87
naphthalene	PH7, 0PPM CL	40 ppb	4	7 D	89		87
naphthalene	PH7, 2PPM CL	40 ppb	4	7 D	97		87
naphthalene	PH7, 2PPM CL	40 ppb	25	7 D	93		87
n-nitrosodiphenylamine	PH 10		4	7 D	13		88
n-nitrosodiphenylamine	PH 10		24	7 D	31		88
n-nitrosodiphenylamine	PH 10,2PPMCL		24	7 D	62		88
n-nitrosodiphenylamine	PH 2		4	7 D	50		88
n-nitrosodiphenylamine	PH 2		24	7 D	69		88
n-nitrosodiphenylamine	PH 2, 2PPMCL		24	7 D	95		88
n-nitrosodiphenylamine	PH 2, 2PPMCL		4	7 D	94		88
n-nitrosodiphenylamine	PH 7		4	7 D	14		88
n-nitrosodiphenylamine	PH 7		24	7 D	31		88
n-nitrosodiphenylamine	PH 7, 2PPMCL		24	7 D	78		88
n-nitrosodiphenylamine	PH 7, 2PPMCL		4	7 D	31		88
n-nitrosodiphenylamine	PH10, 2PPMCL		4	7 D	26		88
n-nitroso-di-n-propylamine	PH 10		24	7 D	98	analysis by TEA	88
n-nitroso-di-n-propylamine	PH 10		4	7 D	0	analysis by AFID	88
n-nitroso-di-n-propylamine	PH 10		24	7 D	3	analysis by AFID	88
n-nitroso-di-n-propylamine	PH 10		4	7 D	100	analysis by TEA	88
n-nitroso-di-n-propylamine	PH 10,2PPMCL		4	7 D	6	analysis by AFID	88
n-nitroso-di-n-propylamine	PH 10,2PPMCL		24	7 D	7	analysis by AFID	88
n-nitroso-di-n-propylamine	PH 10,2PPMCL		24	7 D	97	analysis by TEA	88
n-nitroso-di-n-propylamine	PH 10,2PPMCL		4	7 D	97	analysis by TEA	88
n-nitroso-di-n-propylamine	PH 2		4	7 D	100	analysis by TEA	88
n-nitroso-di-n-propylamine	PH 2		4	7 D	0	analysis by AFID	88
n-nitroso-di-n-propylamine	PH 2		24	7 D	100	analysis by TEA	88
n-nitroso-di-n-propylamine	PH 2		24	7 D	3	analysis by AFID	88
n-nitroso-di-n-propylamine	PH 2, 2PPMCL		24	7 D	100	analysis by TEA	88
n-nitroso-di-n-propylamine	PH 2, 2PPMCL		4	7 D	3	analysis by AFID	88
n-nitroso-di-n-propylamine	PH 2, 2PPMCL		24	7 D	7	analysis by AFID	88
n-nitroso-di-n-propylamine	PH 2, 2PPMCL		4	7 D	100	analysis by TEA	88
n-nitroso-di-n-propylamine	PH 7		24	7 D	97	analysis by TEA	88
n-nitroso-di-n-propylamine	PH 7		24	7 D	8	analysis by AFID	88

Matrix: Water Class: Base-neutral Extractable Compounds

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
n-nitroso-di-n-propylamine	PH 7		4	7 D	0	analysis by AFID	88
n-nitroso-di-n-propylamine	PH 7		4	7 D	100	analysis by TEA	88
n-nitroso-di-n-propylamine	PH 7, 2PPMCL		24	7 D	8	analysis by AFID	88
n-nitroso-di-n-propylamine	PH 7, 2PPMCL		4	7 D	3	analysis by AFID	88
n-nitroso-di-n-propylamine	PH 7, 2PPMCL		24	7 D	99	analysis by TEA	88
n-nitroso-di-n-propylamine	PH 7, 2PPMCL		4	7 D	96	analysis by TEA	88
phenanthrene	C18 COLUMN	248.5 ng/mL	25	1 D	44.5	extract, stored in dark	322
phenanthrene	C18 COLUMN	248.5 ng/mL	25	1 W	70.1	extract, stored in dark	322
phenanthrene	C18 COLUMN	248.5 ng/mL	25	1 M	66.1	extract, stored in dark	322
phenanthrene	C18 COLUMN	248.5 ng/mL	25	2 M	54.5	extract, stored in dark	322
phenanthrene	C18 COLUMN	248.5 ng/mL	25	3 M	76	extract, stored in dark	322
phenanthrene	C18 COLUMN	99.4 ng/mL	25	1 D	44.7	extract, stored in dark	322
phenanthrene	C18 COLUMN	99.4 ng/mL	25	1 W	40	extract, stored in dark	322
phenanthrene	C18 COLUMN	99.4 ng/mL	25	1 M	65.2	extract, stored in dark	322
phenanthrene	C18 COLUMN	99.4 ng/mL	25	2 M	64	extract, stored in dark	322
phenanthrene	C18 COLUMN	99.4 ng/mL	25	3 M	60.6	extract, stored in dark	322
phenanthrene	PH10,0PPM CL	40 ppb	4	7 D	87		87
phenanthrene	PH10,0PPM CL	40 ppb	25	7 D	66		87
phenanthrene	PH10,2PPM CL	40 ppb	4	7 D	61		87
phenanthrene	PH10,2PPM CL	40 ppb	25	7 D	45		87
phenanthrene	PH2, 0PPM CL	40 ppb	25	7 D	70		87
phenanthrene	PH2, 0PPM CL	40 ppb	4	7 D	73		87
phenanthrene	PH2, 2PPM CL	40 ppb	25	7 D	59		87
phenanthrene	PH2, 2PPM CL	40 ppb	4	7 D	60		87
phenanthrene	PH7, 0PPM CL	40 ppb	4	7 D	69		87
phenanthrene	PH7, 0PPM CL	40 ppb	25	7 D	72		87
phenanthrene	PH7, 2PPM CL	40 ppb	4	7 D	72		87
phenanthrene	PH7, 2PPM CL	40 ppb	25	7 D	69		87
pyrene	C18 COLUMN	200.8 ng/mL	25	1 M	83.3	extract, stored in dark	322
pyrene	C18 COLUMN	200.8 ng/mL	25	1 D	78.9	extract, stored in dark	322
pyrene	C18 COLUMN	200.8 ng/mL	25	1 W	73.4	extract, stored in dark	322
pyrene	C18 COLUMN	200.8 ng/mL	25	2 M	77.1	extract, stored in dark	322
pyrene	C18 COLUMN	200.8 ng/mL	25	3 M	76.9	extract, stored in dark	322
pyrene	C18 COLUMN	502 ng/mL	25	1 M	81	extract, stored in dark	322
pyrene	C18 COLUMN	502 ng/mL	25	1 D	79.4	extract, stored in dark	322
pyrene	C18 COLUMN	502 ng/mL	25	1 W	72.2	extract, stored in dark	322
pyrene	C18 COLUMN	502 ng/mL	25	2 M	77.3	extract, stored in dark	322
pyrene	C18 COLUMN	502 ng/mL	25	3 M	78.8	extract, stored in dark	322
pyrene	PH10,0PPM CL	40 ppb	25	7 D	111		87
pyrene	PH10,0PPM CL	40 ppb	4	7 D	111		87
pyrene	PH10,2PPM CL	40 ppb	25	7 D	86		87
pyrene	PH10,2PPM CL	40 ppb	4	7 D	93		87
pyrene	PH2, 0PPM CL	40 ppb	25	7 D	85		87
pyrene	PH2, 0PPM CL	40 ppb	4	7 D	91		87
pyrene	PH2, 2PPM CL	40 ppb	25	7 D	86		87
pyrene	PH2, 2PPM CL	40 ppb	4	7 D	58		87
pyrene	PH7, 0PPM CL	40 ppb	4	7 D	86		87
pyrene	PH7, 0PPM CL	40 ppb	25	7 D	84		87
pyrene	PH7, 2PPM CL	40 ppb	4	7 D	97		87

Matrix: Water

Class: Base-neutral Extractable Compounds

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
pyrene	PH7, 2PPM CL	40 ppb	25	7 D	79		87

COMPOUND CLASS PROFILE

Base-neutral Extractable Compounds

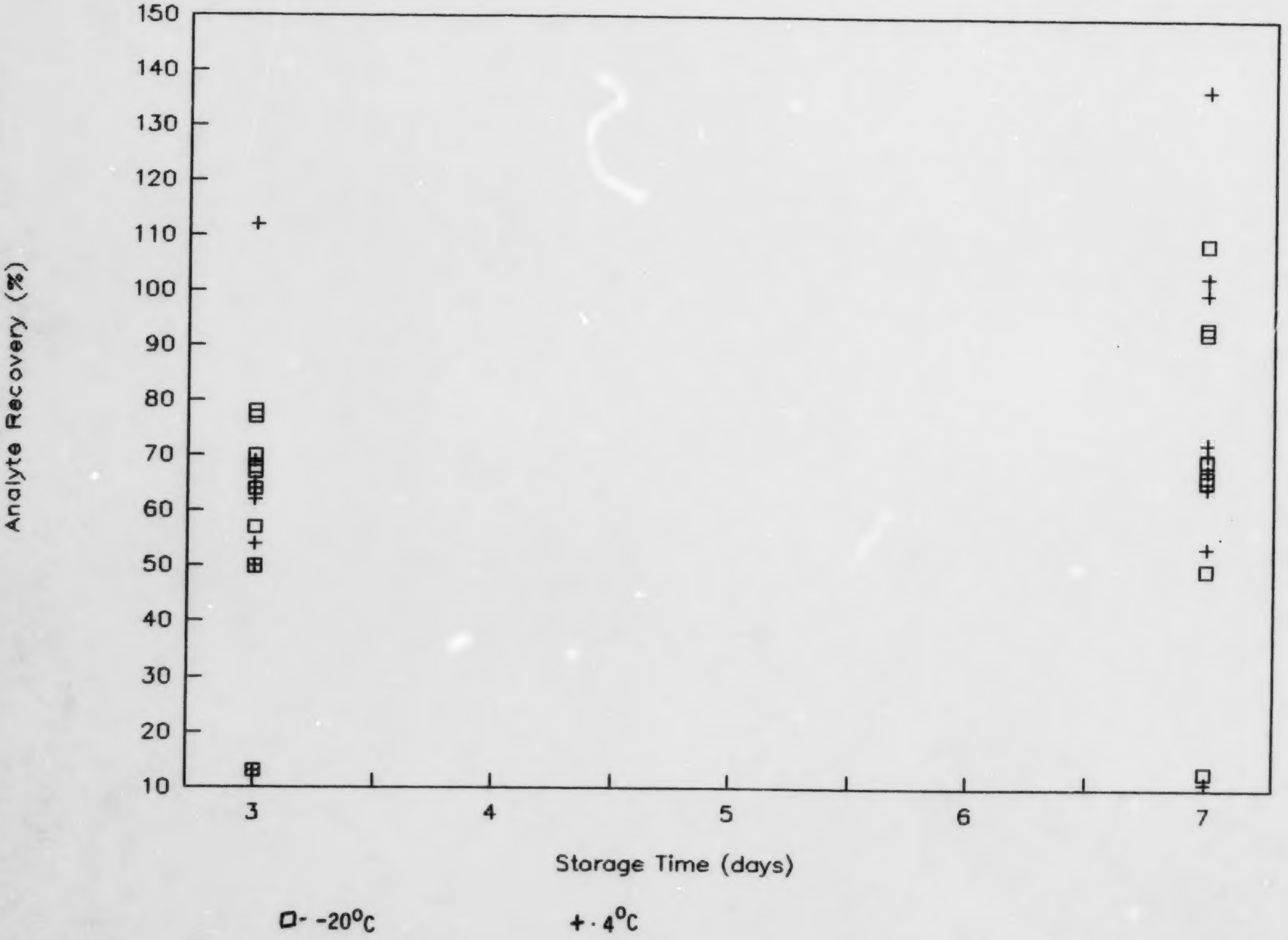
Sediment:

Existing Criteria:	None
Experimental Data:	One study on some PAH's and phthalates
Data Evaluation:	Evaluation of storage at different temperatures.
Data Deficiencies:	Majority of compounds on list, no data was obtained.
Storage Recommendations:	Provisional recommendation - store at -20°C for 3 days before extraction.

COMPOUND CLASS: *Base-Neutral Extractable Compounds* MATRIX: *Sediment* RUN DATE: *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION	T (C)	TIME	RECOVERY	COMMENT	REFERENCE
anthracene							
	NONE	-	4	3 - 7 D	54 - 73		
			Average Recovery:		63	Std. Dev.: 7.6	
benzyl butyl phthalate							
	NONE	-	4	3 - 7 D	65 - 100		
			Average Recovery:		82	Std. Dev.: 15.2	
chrysene							
	NONE	-	4	3 - 7 D	64 - 71		
			Average Recovery:		66	Std. Dev.: 2.9	
di-n-butylphthalate							
	NONE	-	-20	3 - 7 D	65 - 78		
			Average Recovery:		71	Std. Dev.: 4.7	
di-n-octylphthalate							
	NONE	-	4	3 - 7 D	77 - 137		
			Average Recovery:		109	Std. Dev.: 21.3	
bis-(2-ethylhexyl)-phthalate							
	NONE	-	4	3 - 7 D	62 - 103		
			Average Recovery:		82	Std. Dev.: 16.8	
fluorene							
	NONE	-	4	3 - 7 D	50 - 54		
			Average Recovery:		51	Std. Dev.: 1.7	
naphthalene							
	NONE	-	4	3 - 7 D	11 - 13		
			Average Recovery:		13	Std. Dev.: 0.9	
pyrene							
	NONE	-	4	3 - 7 D	65 - 68		
			Average Recovery:		67	Std. Dev.: 1.1	

Figure A-15 Analyte Recovery at Different Temperatures for Base Neutral Extractable Compounds in Sediment Matrix



Ref: ASC 232

Matrix: Sediments Class: Base-neutral Extractable Compounds

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
anthracene	NONE		-20	3 D	57		232
anthracene	NONE		4	3 D	54		232
anthracene	NONE		-20	7 D	67		232
anthracene	NONE		4	7 D	73		232
benzyl butyl phthalate	NONE		4	3 D	65		232
benzyl butyl phthalate	NONE		-20	3 D	68		232
benzyl butyl phthalate	NONE		-20	7 D	93		232
benzyl butyl phthalate	NONE		4	7 D	100		232
chrysene	NONE		4	3 D	64		232
chrysene	NONE		-20	3 D	64		232
chrysene	NONE		-20	7 D	66		232
chrysene	NONE		4	7 D	71		232
di-n-butylphthalate	NONE		4	3 D	69		232
di-n-butylphthalate	NONE		-20	3 D	78		232
di-n-butylphthalate	NONE		4	7 D	65		232
di-n-butylphthalate	NONE		-20	7 D	70		232
di-n-octylphthalate	NONE		-20	3 D	77		232
di-n-octylphthalate	NONE		4	3 D	112		232
di-n-octylphthalate	NONE		-20	7 D	109		232
di-n-octylphthalate	NONE		4	7 D	137		232
bis-(2-ethylhexyl)-phthalate	NONE		4	3 D	62		232
bis-(2-ethylhexyl)-phthalate	NONE		-20	3 D	70		232
bis-(2-ethylhexyl)-phthalate	NONE		-20	7 D	94		232
bis-(2-ethylhexyl)-phthalate	NONE		4	7 D	103		232
fluorene	NONE		-20	3 D	50		232
fluorene	NONE		4	3 D	50		232
fluorene	NONE		-20	7 D	50		232
fluorene	NONE		4	7 D	54		232
naphthalene	NONE		4	3 D	13		232
naphthalene	NONE		-20	3 D	13		232
naphthalene	NONE		-20	7 D	13		232
naphthalene	NONE		4	7 D	11		232
pyrene	NONE		-20	3 D	67		232
pyrene	NONE		4	3 D	65		232
pyrene	NONE		-20	7 D	67		232
pyrene	NONE		4	7 D	68		232

COMPOUND CLASS PROFILE

Base-neutral Extractable Compounds

Vegetation:

Existing Criteria: None

Experimental Data: None

Data Evaluation: None

Data Deficiencies: No data obtained

Storage Recommendations: Tentative recommendation - store at -20°C for 3 days before extraction.

COMPOUND CLASS PROFILE

Base-neutral Extractable Compounds

Waste Water:

Existing Criteria: U.S. EPA Sampling Manual Collect in amber glass container with teflon lined cap; preserve with 0.008% $Na_2S_2O_3$; refrigerate; store in dark; extract within 7 days; analyze within 40 days of extraction.

Experimental Data: One study concerns mainly PAH's.

Data Evaluation: Evaluation of data between formaldehyde and no preservation.

Data Deficiencies: No data obtained for majority of compounds on target list.

Storage Recommendations: Provisional recommendation - preservation with formaldehyde; storage at 4°C; analysis to be completed within 56 days.

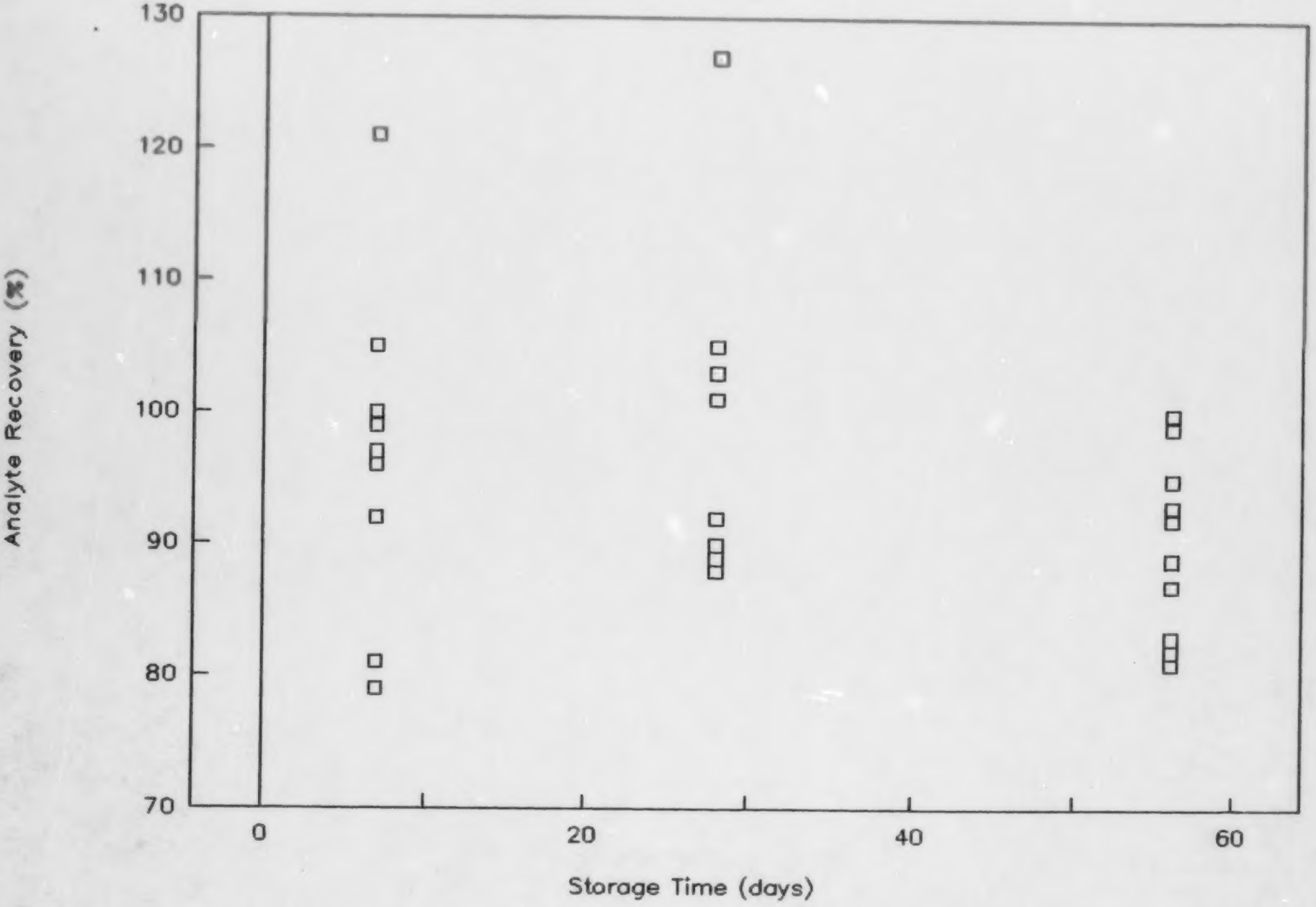
COMPOUND CLASS: *Base-Neutral Extractable Compounds* **MATRIX:** *Wastewater* **RUN DATE:** *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME		RECOVERY	COMMENT	REFERENCE
acenaphthene									
	FORMALDYHYDE	1.6 - 1.6	ug	15	7 - 56	D	79 - 89		
				Average Recovery:			83	Std. Dev.: 4.2	
	NONE	1.74 - 1.74	ug	15	7 - 56	D	30 - 76		
				Average Recovery:			53	Std. Dev.: 23.0	
acenaphthylene									
	FORMALDYHYDE	.206 - .206	ug	15	7 - 56	D	81 - 90		
				Average Recovery:			84	Std. Dev.: 4.2	
	NONE	.242 - .242	ug	15	7 - 56	D	62 - 88		
				Average Recovery:			75	Std. Dev.: 13.0	
anthracene									
	FORMALDYHYDE	.173 - .173	ug	15	7 - 56	D	83 - 92		
				Average Recovery:			89	Std. Dev.: 4.2	
	NONE	.186 - .186	ug	15	7 - 56	D	32 - 89		
				Average Recovery:			63	Std. Dev.: 23.5	
benz(a)anthracene									
	FORMALDEHYDE	.266 - .266	ug	15	7 - 56	D	99 - 105		
				Average Recovery:			102	Std. Dev.: 2.5	
	NONE	.325 - .325	ug	15	7 - 56	D	68 - 91		
				Average Recovery:			83	Std. Dev.: 10.9	
benzo(g,h,i)perylene									
	FORMALDYHYDE	.152 - .152	ug	15	7 - 56	D	87 - 105		
				Average Recovery:			97	Std. Dev.: 7.5	
	NONE	.164 - .164	ug	15	7 - 56	D	93 - 110		
				Average Recovery:			100	Std. Dev.: 7.4	
benzo(a)pyrene									
	FORMALDYHYDE	.16 - .16	ug	15	7 - 56	D	100 - 127		
				Average Recovery:			116	Std. Dev.: 11.6	
	NONE	.21 - .21	ug	15	7 - 56	D	76 - 111		
				Average Recovery:			95	Std. Dev.: 14.5	
chrysene									

COMPOUND CLASS: *Base-Neutral Extractable Compounds* MATRIX: *Wastewater* RUN DATE: *12-Oct-89*

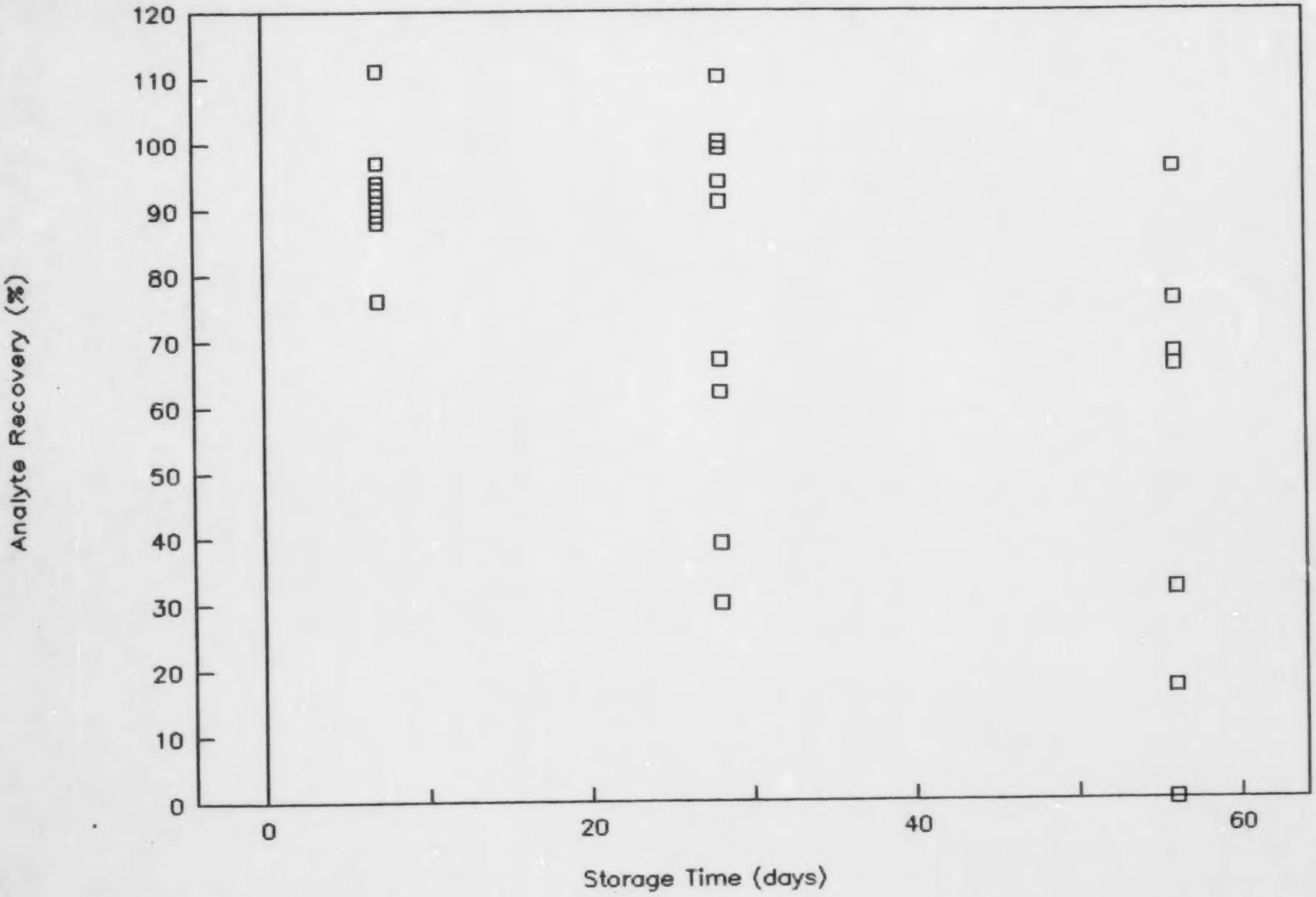
COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME		RECOVERY	COMMENT	REFERENCE
chrysene									
	FORMALDEHYDE	.315 - .315	ug	15	7 - 56	D	99 - 103		
				Average Recovery:			101	Std. Dev.: 1.7	
	NONE	.38 - .38	ug	15	7 - 56	D	66 - 91		
				Average Recovery:			82	Std. Dev.: 11.6	
dimethylbenz(a)anthracene									
	FORMALDYHYDE	.139 - .139	ug	15	7 - 56	D	92 - 105		
				Average Recovery:			98	Std. Dev.: 5.4	
	NONE	.176 - .176	ug	15	7 - 56	D	76 - 100		
				Average Recovery:			88	Std. Dev.: 9.8	
fluorene									
	FORMALDYHYDE	1.27 - 1.27	ug	15	7 - 56	D	89 - 97		
				Average Recovery:			92	Std. Dev.: 3.6	
	NONE	1.4 - 1.4	ug	15	7 - 56	D	39 - 97		
				Average Recovery:			68	Std. Dev.: 29.0	
indeno(1.2.3-cd)pyrene									
	FORMALDYHYDE	.139 - .139	ug	15	7 - 56	D	92 - 105		
				Average Recovery:			98	Std. Dev.: 5.4	
	NONE	.176 - .176	ug	15	7 - 56	D	76 - 100		
				Average Recovery:			88	Std. Dev.: 9.8	
phenanthrene									
	FORMALDYHYDE	1.2 - 1.2	ug	15	7 - 56	D	90 - 96		
				Average Recovery:			93	Std. Dev.: 2.6	
	NONE	1.39 - 1.39	ug	15	7 - 56	D	17 - 94		
				Average Recovery:			58	Std. Dev.: 31.6	
pyrene									
	FORMALDYHYDE	.8 - .8	ug	15	7 - 56	D	88 - 99		
				Average Recovery:			94	Std. Dev.: 4.5	
	NONE	.865 - .865	ug	15	7 - 56	D	68 - 94		
				Average Recovery:			85	Std. Dev.: 11.8	

Figure A-16 Analyte Recovery with Formaldehyde Preservation for Base Neutral Extractable Compounds in Waste Water Matrix



Ref: ASC 231

Figure A-17 Analyte Recovery with no Preservation for Base Neutral Extractable Compounds in Waste Water Matrix



Ref: ASC 231

Matrix: Waste Waters Class: Base-neutral Extractable Compounds

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
acenaphthene	FORMALDYHYDE	1.6 ug	15	7 D	79		231
acenaphthene	FORMALDYHYDE	1.8 ug	15	28 D	89		231
acenaphthene	FORMALDYHYDE	1.6 ug	15	56 D	82		231
acenaphthene	NONE	1.74 ug	15	7 D	76		231
acenaphthene	NONE	1.74 ug	15	28 D	30		231
acenaphthene	NONE	1.74 ug	15	56 D	0		231
acenaphthylene	FORMALDYHYDE	0.20 ug	15	7 D	81		231
acenaphthylene	FORMALDYHYDE	0.20 ug	15	28 D	90		231
acenaphthylene	FORMALDYHYDE	0.20 ug	15	56 D	81		231
acenaphthylene	NONE	0.24 ug	15	7 D	88		231
acenaphthylene	NONE	0.24 ug	15	28 D	62		231
acenaphthylene	NONE	0.24 ug	15	56 D	0		231
anthracene	FORMALDYHYDE	0.17 ug	15	7 D	92		231
anthracene	FORMALDYHYDE	0.17 ug	15	28 D	92		231
anthracene	FORMALDYHYDE	0.17 ug	15	56 D	83		231
anthracene	NONE	0.18 ug	15	7 D	89		231
anthracene	NONE	0.18 ug	15	28 D	67		231
anthracene	NONE	0.18 ug	15	56 D	32		231
benz(a)anthracene	FORMALDEHYDE	0.26 ug	15	7 D	105		231
benz(a)anthracene	FORMALDEHYDE	0.26 ug	15	28 D	101		231
benz(a)anthracene	FORMALDEHYDE	0.26 ug	15	56 D	99		231
benz(a)anthracene	NONE	0.32 ug	15	7 D	91		231
benz(a)anthracene	NONE	0.32 ug	15	28 D	91		231
benz(a)anthracene	NONE	0.32 ug	15	56 D	68		231
benzo(g,h,i)perylene	FORMALDYHYDE	0.15 ug	15	7 D	99		231
benzo(g,h,i)perylene	FORMALDYHYDE	0.15 ug	15	28 D	105		231
benzo(g,h,i)perylene	FORMALDYHYDE	0.15 ug	15	56 D	87		231
benzo(g,h,i)perylene	NONE	0.16 ug	15	7 D	93		231
benzo(g,h,i)perylene	NONE	0.16 ug	15	28 D	110		231
benzo(g,h,i)perylene	NONE	0.16 ug	15	56 D	96		231
benzo(a)pyrene	FORMALDYHYDE	0.16 ug	15	7 D	121		231
benzo(a)pyrene	FORMALDYHYDE	0.16 ug	15	28 D	127		231
benzo(a)pyrene	FORMALDYHYDE	0.16 ug	15	56 D	100		231
benzo(a)pyrene	NONE	0.21 ug	15	7 D	111		231
benzo(a)pyrene	NONE	0.21 ug	15	28 D	99		231
benzo(a)pyrene	NONE	0.21 ug	15	56 D	76		231
chrysene	FORMALDEHYDE	0.31 ug	15	7 D	100		231
chrysene	FORMALDEHYDE	0.31 ug	15	28 D	103		231
chrysene	FORMALDEHYDE	0.31 ug	15	56 D	99		231
chrysene	NONE	0.38 ug	15	7 D	90		231
chrysene	NONE	0.38 ug	15	28 D	91		231
chrysene	NONE	0.38 ug	15	56 D	66		231
dimethylbenz(a)anthracene	FORMALDYHYDE	0.13 ug	15	7 D	97		231
dimethylbenz(a)anthracene	FORMALDYHYDE	0.13 ug	15	28 D	105		231
dimethylbenz(a)anthracene	FORMALDYHYDE	0.13 ug	15	56 D	92		231
dimethylbenz(a)anthracene	NONE	0.17 ug	15	7 D	89		231
dimethylbenz(a)anthracene	NONE	0.17 ug	15	28 D	100		231
dimethylbenz(a)anthracene	NONE	0.17 ug	15	56 D	76		231
fluorene	FORMALDYHYDE	1.27 ug	15	7 D	97		231

Matrix: Waste Waters Class: Base-neutral Extractable Compounds

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
fluorene	FORMALDYHYDE	1.27 ug	15	28 D	90		231
fluorene	FORMALDYHYDE	1.27 ug	15	56 D	89		231
fluorene	NONE	1.4 ug	15	7 D	97		231
fluorene	NONE	1.4 ug	15	28 D	39		231
fluorene	NONE	1.4 ug	15	56 D	0		231
indeno(1,2,3-cd)pyrene	FORMALDYHYDE	0.13 ug	15	7 D	97		231
indeno(1,2,3-cd)pyrene	FORMALDYHYDE	0.13 ug	15	28 D	105		231
indeno(1,2,3-cd)pyrene	FORMALDYHYDE	0.13 ug	15	56 D	92		231
indeno(1,2,3-cd)pyrene	NONE	0.17 ug	15	7 D	89		231
indeno(1,2,3-cd)pyrene	NONE	0.17 ug	15	28 D	100		231
indeno(1,2,3-cd)pyrene	NONE	0.17 ug	15	56 D	76		231
phenanthrene	FORMALDYHYDE	1.2 ug	15	7 D	96		231
phenanthrene	FORMALDYHYDE	1.2 ug	15	28 D	90		231
phenanthrene	FORMALDYHYDE	1.2 ug	15	56 D	93		231
phenanthrene	NONE	1.39 ug	15	7 D	94		231
phenanthrene	NONE	1.39 ug	15	28 D	62		231
phenanthrene	NONE	1.39 ug	15	56 D	17		231
pyrene	FORMALDYHYDE	0.8 ug	15	7 D	99		231
pyrene	FORMALDYHYDE	0.8 ug	15	28 D	88		231
pyrene	FORMALDYHYDE	0.8 ug	15	56 D	95		231
pyrene	NONE	0.86 ug	15	7 D	92		231
pyrene	NONE	0.86 ug	15	28 D	94		231
pyrene	NONE	0.86 ug	15	56 D	68		231

COMPOUND CLASS PROFILE

Carbamate Pesticides

Drinking/Surface Water:

Existing Criteria:	U.S. EPA Sampling Manual Collect in amber glass container with teflon lined cap; pH 5-9; refrigerate; extract within 7 days; analyze within 40 days of extraction.
Experimental Data:	One study with one compound on target list.
Data Evaluation:	Evaluation of extract recoveries with time.
Data Deficiencies:	No data obtained for majority of target compounds on list.
Storage Recommendations:	Tentative recommendation - Extract in toluene; store at 3°C for up to 2 months before analysis or follow U.S. EPA protocol of collection in an amber glass container with teflon lined cap, pH 5-9; refrigerate; extract within 7 days and analyze within 40 days of extraction.

COMPOUND CLASS: *Carbamate Pesticides* **MATRIX:** *Drinking/Surface Water* **RUN DATE:** *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME		RECOVERY	COMMENT	REFERENCE
butylate									
	TOLUENE	200 - 200	pg/ul	-15	1 - 2	M	49 - 90		
				Average Recovery:			70	Std. Dev.: 20.3	

Matrix: Water Class: Carbamate Pesticides

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
butylate	TOLUENE	200 pg/ul	-15	1 Y	49	extract	235
butylate	TOLUENE	200 pg/ul	3	1 Y	49	extract	235
butylate	TOLUENE	200 pg/ul	24	1 Y	49	extract, dark	235
butylate	TOLUENE	200 pg/ul	24	1 Y	51	extract, light	235
butylate	TOLUENE	200 pg/ul	3	2 M	90	extract	235
butylate	TOLUENE	200 pg/ul	24	2 M	90	extract, dark	235
butylate	TOLUENE	200 pg/ul	24	2 M	90	extract, light	235
butylate	TOLUENE	200 pg/ul	-15	2 M	90	extract	235

COMPOUND CLASS PROFILE

Carbamate Pesticides

Sediment:

Existing Criteria:	None
Experimental Data:	Three studies. No preservation. Storage at various temperatures for up to 6 months.
Data Evaluation:	Evaluation of recoveries against time of storage and temperature.
Data Deficiencies:	No data obtained for majority of compounds.
Storage Recommendations:	Tentative Recommendation - Storage at 10°C or lower for maximum of 12 weeks.

COMPOUND CLASS: *Carbamate Pesticides* MATRIX: *Sediment* RUN DATE: *13-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME		RECOVERY	COMMENT	REFERENCE
barban									
	NONE	-			1 - 2	W	10 - 25		
				Average Recovery:			18	Std. Dev.: 7.5	
benomyl (benilate)									
	NONE	100 - 100	ppm	40	19 - 19	W	30 - 100		
				Average Recovery:			65	Std. Dev.: 35.0	
carbaryl									
	NONE	.5 - .5	ppm	13	16 - 16	W	100 - 100		
				Average Recovery:			100	Std. Dev.: 0.0	
carbofuran									
	NONE	.5 - 25.9	mg/kg	-20	6 - 16	M	1 - 100		
				Average Recovery:			57	Std. Dev.: 45.8	

Matrix: Sediments Class: Carbamate Pesticides

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
barban				1 W	25		301
barban				2 W	10		301
benomyl (benilate)		100 ppm	16	19 W	100		301
benomyl (benilate)		100 ppm	40	19 W	30		301
carbaryl		0.5 ppm	13	16 W	100	sandy soil, bioactivity	301
carbofuran		0.5 ppm	24	12 W	100	sandy soil, bioactivity	301
carbofuran		.5-10ppm	10	16 H	94.4	10-70 mm	265
carbofuran		.5-10ppm	10	16 H	89.9	0-1 mm	265
carbofuran		21.8 mg/kg	-20	6 M	2	Moist Soil (15-18% water)	42
carbofuran		25.9 mg/kg	-20	6 M	1	Moist Soil (15-18% water)	42

COMPOUND CLASS PROFILE

Carbamate Pesticides

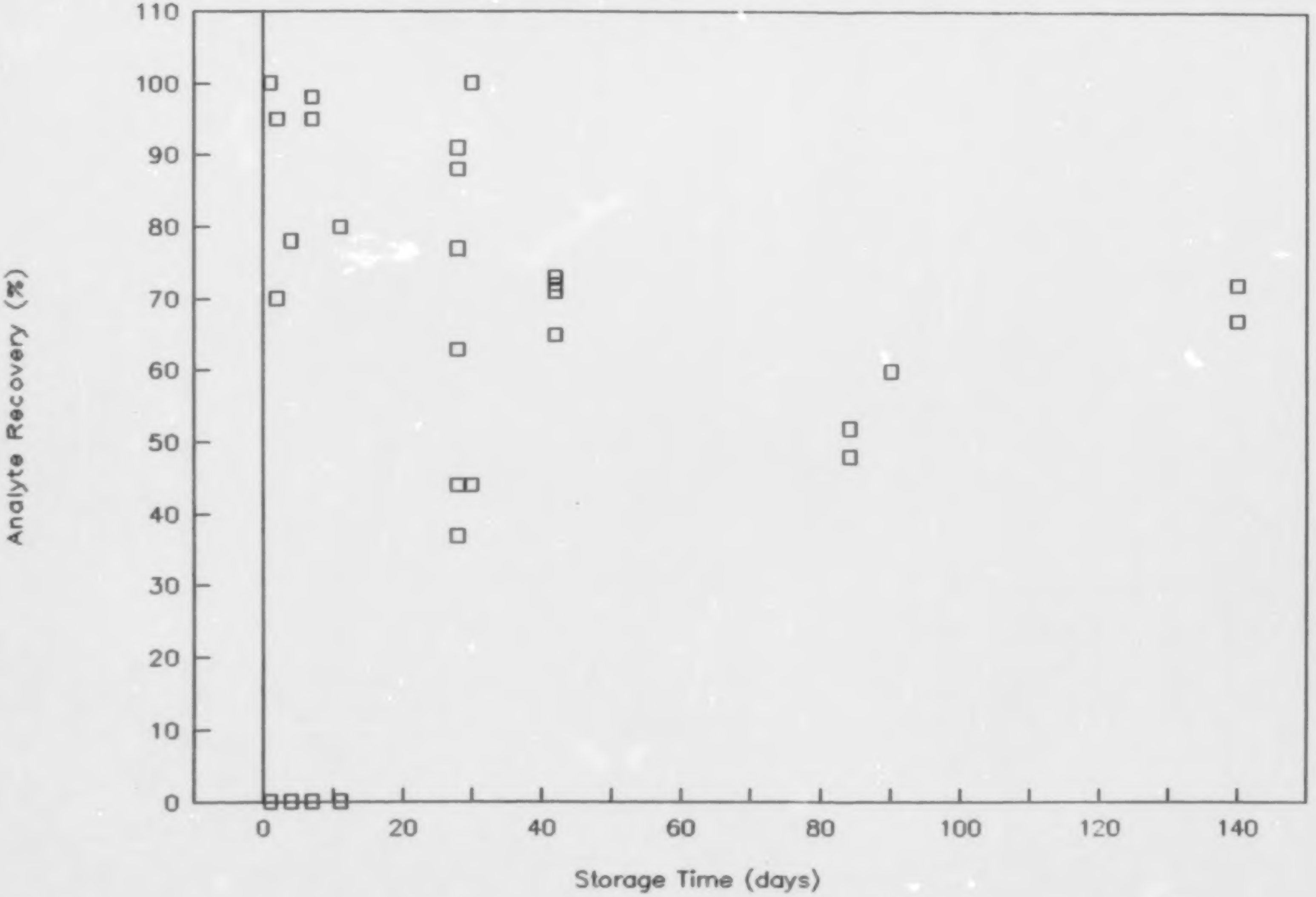
Vegetation:

Existing Criteria:	None
Experimental Data:	Data from 5 studies, samples were either stored as is or extracted then stored.
Data Evaluation:	Comparisons between samples stored as is, under varying conditions and extracts reveal that extraction as soon as possible after sampling is more reliable than storage as is.
Data Deficiencies:	Insufficient data for reliable analysis. Conflicting data indicates more controlled studies need to be done. More data for the various options is required. Little or no data obtained for aminocarb, barban, benomyl (benilate), butylate, bux, diallate, eptam and propoxur.
Storage Recommendations:	Provisional recommendation - store samples at 4°C; extract as soon as possible and complete analysis within 30 days.

COMPOUND CLASS: *Carbamate Pesticides* MATRIX: *Vegetation* RUN DATE: *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME		RECOVERY	COMMENT	REFERENCE
captan									
	NONE	10 - 10	mg/kg	-18	2 - 30	D	44 - 100		
				Average	**Recovery:**		81	**Std. Dev.: 21.2**	
carbaryl									
	HEXANE-EXTR	10 - 10	mg/kg	10	8 - 8	M	-		
				Average	**Recovery:**		0	**Std. Dev.: 0.0**	
	NONE	10 - 8.5	ppm	7	1 - 90	D	60 - 100		
				Average	**Recovery:**		83	**Std. Dev.: 14.7**	
carbofuran									
	ACETONE-EXTR	2 - 2	mg/kg	23	8 - 8	W	85 - 97		
				Average	**Recovery:**		88	**Std. Dev.: 5.1**	
	EXTR/FLORISL	2 - 2	mg/kg	23	8 - 8	W	87 - 102		
				Average	**Recovery:**		97	**Std. Dev.: 7.1**	
isopropyl-n-phenylcarbamate (I									
	EXTRACTS	unspec - unspecified	mg/kg	0-20	21 - 21	D	37 - 37		
				Average	**Recovery:**		37	**Std. Dev.: 0.0**	
	NONE	16 - 71	mg/kg	10	4 - 20	W	37 - 88		
				Average	**Recovery:**		67	**Std. Dev.: 16.4**	
isopropyl-n-(m-chlorophenyl)ca									
	EXTRACTS	unspec - unspecified	mg/kg	0-20	21 - 21	D	37 - 37		
				Average	**Recovery:**		37	**Std. Dev.: 0.0**	
	NONE	29 - 70	mg/kg	10	4 - 20	W	44 - 91		
				Average	**Recovery:**		65	**Std. Dev.: 13.9**	

Figure A-18 Analyte Recovery with no Preservation for Carbamate Pesticides in Vegetation Matrix



Ref: ASC 194, 211, 212, 214

Matrix: Vegetables Class: Carbamate Pesticides

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
captan	NONE	10 mg/kg	20	2 D	70	strawb./beans/tom./appl/plum	194
captan	NONE	10 mg/kg	4	2 D	95	strawberries	194
captan	NONE	10 mg/kg	4	7 D	95	beans & gooseberries	194
captan	NONE	10 mg/kg	-18	30 D	100	strawberries	194
captan	NONE	10 mg/kg	-18	30 D	44	beans & gooseberries	194
carbaryl	HEXANE-EXTR	10 mg/kg	10	8 M	0	Stable - Recovery Unspecified	194
carbaryl	NONE	10 mg/kg	12	7 D	0	Stable - Recovery Unspecified	194
carbaryl	NONE	10 mg/kg	7	11 D	80	Green Beans	194
carbaryl	NONE	10 mg/kg	4	90 D	60	Bean Extracts (solvent ?)	194
carbaryl	NONE	11 ppm	7	1 D	0		212
carbaryl	NONE	6.5 mg/kg	12	4 D	78	Tomatoes	211
carbaryl	NONE	8 ppm	7	4 D	0		212
carbaryl	NONE	8.18 mg/kg	12	7 D	98	Tomatoes	211
carbaryl	NONE	8.36 mg/kg	12	1 D	100	Tomatoes	211
carbaryl	NONE	8.5 ppm	7	11 D	0		212
carbofuran	ACETONE-EXTR	2 mg/kg	8	8 W	85	Extracts of Potatoe	196
carbofuran	ACETONE-EXTR	2 mg/kg	23	8 W	85	Extracts of Potatoe	196
carbofuran	ACETONE-EXTR	2 mg/kg	8	8 W	97	Extracts of Turnip	196
carbofuran	ACETONE-EXTR	2 mg/kg	23	8 W	86	Extracts of Turnip	196
carbofuran	EXTR/FLORISL	2 mg/kg	8	8 W	102	Potato/Final extr. in hexane	196
carbofuran	EXTR/FLORISL	2 mg/kg	23	8 W	87	Turnip/Final extr. in hexane	196
carbofuran	EXTR/FLORISL	2 mg/kg	23	8 W	102	Potato/Final extr. in hexane	196
isopropyl-n-phenylcarbamate (I	EXTRACTS	unspemg/kg	0-20	21 D	37	Apples, Plums, Tomatoes	194
isopropyl-n-phenylcarbamate (I	NONE	16 mg/kg	10	12 W	48	Apples	214
isopropyl-n-phenylcarbamate (I	NONE	16 mg/kg	0	20 W	72	Apples	214
isopropyl-n-phenylcarbamate (I	NONE	43 mg/kg	10	4 W	77	Plums	214
isopropyl-n-phenylcarbamate (I	NONE	43 mg/kg	0	6 W	73	Plums	214
isopropyl-n-phenylcarbamate (I	NONE	57 mg/kg	20	4 W	37	Tomatoes	214
isopropyl-n-phenylcarbamate (I	NONE	57 mg/kg	0	4 W	88	Tomatoes	214
isopropyl-n-phenylcarbamate (I	NONE	71 mg/kg	10	6 W	71	Tomatoes	214
isopropyl-n-(m-chlorophenyl)ca	EXTRACTS	unspemg/kg	0-20	21 D	37	Apples, Plums, Tomatoes	194
isopropyl-n-(m-chlorophenyl)ca	NONE	29 mg/kg	10	12 W	52	Apples	214
isopropyl-n-(m-chlorophenyl)ca	NONE	29 mg/kg	0	20 W	67	Apples	214
isopropyl-n-(m-chlorophenyl)ca	NONE	58 mg/kg	0	4 W	91	Tomatoes	214
isopropyl-n-(m-chlorophenyl)ca	NONE	58 mg/kg	20	4 W	44	Tomatoes	214
isopropyl-n-(m-chlorophenyl)ca	NONE	61.5 mg/kg	10	4 W	63	Plums	214
isopropyl-n-(m-chlorophenyl)ca	NONE	61.5 mg/kg	0	6 W	72	Plums	214
isopropyl-n-(m-chlorophenyl)ca	NONE	70 mg/kg	10	6 W	65	Tomatoes	214

COMPOUND CLASS PROFILE

Carbamate Pesticides

Waste Water:

Existing Criteria:	U.S. EPA Sampling Manual Collect in amber glass container with teflon lined cap; pH 5-9; refrigerate; extract within 7 days; analyze within 40 days of extraction.
Experimental Data:	None
Data Evaluation:	None
Data Deficiencies:	No data obtained
Storage Recommendations:	Tentative recommendation - Extract in toluene; store at 3°C for up to 2 months before analysis or follow U.S. EPA protocol of collection in an amber glass container with teflon lined cap, pH 5-9; refrigerate; extract within 7 days and analyze within 40 days of extraction.

COMPOUND CLASS PROFILE

Chlorinated Dibenzo-p-dioxins and Dibenzofurans

Air - Canister or Bag:

Existing Criteria:	None
Experimental Data:	None
Data Evaluation:	None
Data Deficiencies:	No data obtained
Storage Recommendations:	Tentative recommendation - store SUMMA canisters or glass sample containers at 25°C for up to 12 days before analysis.

COMPOUND CLASS PROFILE

Chlorinated Dibenzo-p-dioxins and Dibenzofurans

Air - Filter:

Existing Criteria:	None
Experimental Data:	None
Data Evaluation:	None
Data Deficiencies:	No data obtained
Storage Recommendations:	Tentative recommendation - store filters at -20°C under air-argon gas mixture. Samples are stable for at least 2 years.

COMPOUND CLASS PROFILE

Chlorinated Dibenzo-p-dioxins and Dibenzofurans

Air - Sorbent Trap:

Existing Criteria:	None
Experimental Data:	None
Data Evaluation:	None
Data Deficiencies:	No data obtained
Storage Recommendations:	Tentative recommendation - follow U.S. E.P.A. protocol of sampling with distributed air volume sets. Sample tubes are sealed; refrigerated; analysis to be completed between 7 and 30 days after sampling.

COMPOUND CLASS PROFILE

Chlorinated Dibenzo-p-dioxins and Dibenzofurans

Biota:

Existing Criteria:	None
Experimental Data:	None
Data Evaluation:	None
Data Deficiencies:	No data obtained
Storage Recommendations:	Tentative recommendation - seal and store samples at -20°C and complete analysis as soon as possible.

COMPOUND CLASS PROFILE

Chlorinated Dibenzo-p-dioxins and Dibenzofurans

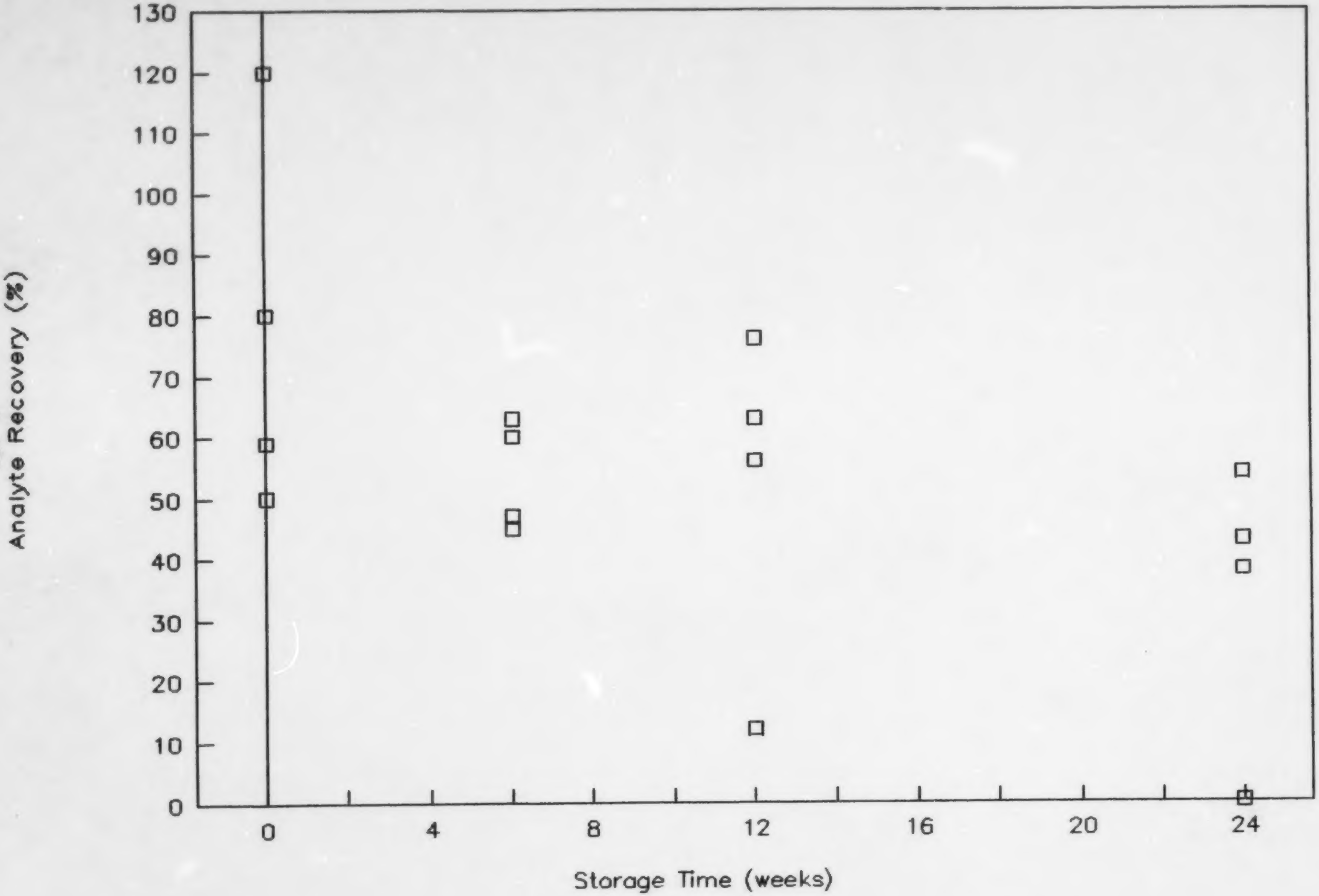
Drinking/Surface Water:

Existing Criteria:	U.S. EPA Sampling Manual Collect in amber glass container with teflon cap; 0.008% $Na_2S_2O_3$; refrigerate; extract within 7 days; analyze within 40 days of extraction.
Experimental Data:	Two studies. One study compares pH 2, 7, and 10 at 4°C and 25°C with no Cl or 10 ppm Cl added for a 14 day period. The second study compares recoveries for a duration of 24 weeks using ^{13}C labelled compounds in a special sample container.
Data Evaluation:	Analysis of the data show that significant losses occur throughout the duration of the study.
Data Deficiencies:	Insufficient data for all compounds, no statistical analysis could be performed.
Storage Recommendations:	Provisional recommendation - Follow U.S. EPA protocol of collection in an amber glass bottle with teflon cap, add 0.008% $Na_2S_2O_3$ if chlorine present; refrigerate; extract within 7 days and analyze.

COMPOUND CLASS: *Chlorinated Dibenzo-p-dioxins and Dibenzofurans* **MATRIX:** *Drinking/Surface Water* **RUN DATE:** *13-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME	RECOVERY	COMMENT	REFERENCE
chlorodibenzo-p-dioxin, octa								
	NONE	1-2 - 100-200	pg/L		0 - 24 W	38 - 120		
				Average Recovery:		69	Std. Dev.: 23.9	
total chlorodibenzo-p-dioxins.								
	NONE	1-2 - 100-200	pg/L		0 - 24 W	12 - 76		
				Average Recovery:		48	Std. Dev.: 16.9	
	PH 10	1 - 1	ppb	25	14 - 14 D	76 - 81		
				Average Recovery:		79	Std. Dev.: 2.5	
	PH 2	1 - 1	ppb	25	14 - 14 D	81 - 95		
				Average Recovery:		88	Std. Dev.: 7.0	
	PH 7	1 - 1	ppb	4	14 - 14 D	74 - 85		
				Average Recovery:		80	Std. Dev.: 5.5	
	PH10.10PPMCL	1 - 1	ppb	4	14 - 14 D	41 - 57		
				Average Recovery:		49	Std. Dev.: 8.0	
	PH2. 10PPMCL	1 - 1	ppb	4	14 - 14 D	65 - 67		
				Average Recovery:		66	Std. Dev.: 1.0	
	PH7. 10PPMCL	1 - 1	ppb	4	14 - 14 D	49 - 74		
				Average Recovery:		62	Std. Dev.: 12.5	

Figure A-19 Analyte Recovery with no Preservation for Chlorinated Dibenzo-p-Dioxins and Dibenzofurans in Drinking/Surface Water Matrix



Ref: ASC 220

Matrix: Water

Class: Chorinated Dibenzo-p-dioxins and Dibenzofurans

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
chlorodibenzo-p-dioxin, octa	NONE	1-2 ng/L		0 W	80	13C; Custom-made Sample Cont.	220
chlorodibenzo-p-dioxin, octa	NONE	1-2 ng/L		6 W	63	13C; Custom-made Sample Cont.	220
chlorodibenzo-p-dioxin, octa	NONE	1-2 ng/L		12 W	56	13C; Custom-made Sample Cont.	220
chlorodibenzo-p-dioxin, octa	NONE	1-2 ng/L		24 W	38	13C; Custom-made Sample Cont.	220
chlorodibenzo-p-dioxin, octa	NONE	100-2pg/L		0 W	120	13C; Custom-made Sample Cont.	220
chlorodibenzo-p-dioxin, octa	NONE	100-2pg/L		6 W	60	13C; Custom-made Sample Cont.	220
chlorodibenzo-p-dioxin, octa	NONE	100-2pg/L		12 W	63	13C; Custom-made Sample Cont.	220
chlorodibenzo-p-dioxin, octa	NONE	100-2pg/L		24 W	0	13C; Custom-made Sample Cont.	220
total chlorodibenzo-p-dioxins,		1-2 NG		0 W		C13,CUSTOM MADE SAM. CONTAINER	220
total chlorodibenzo-p-dioxins,		1-2 NG		0 W			220
total chlorodibenzo-p-dioxins,	NONE	1-2 ng/L		0 W	50	13C; Custom-made Sample Cont.	220
total chlorodibenzo-p-dioxins,	NONE	1-2 ng/L		0 W			220
total chlorodibenzo-p-dioxins,	NONE	1-2 ng/L		6 W	45	13C; Custom-made Sample Cont.	220
total chlorodibenzo-p-dioxins,	NONE	1-2 ng/L		12 W	12	13C; Custom-made Sample Cont.	220
total chlorodibenzo-p-dioxins,	NONE	1-2 ng/L		24 W	43	13C; Custom-made Sample Cont.	220
total chlorodibenzo-p-dioxins,	NONE	100-2pg/L		0 W	59	13C; Custom-made Sample Cont.	220
total chlorodibenzo-p-dioxins,	NONE	100-2pg/L		6 W	47	13C; Custom-made Sample Cont.	220
total chlorodibenzo-p-dioxins,	NONE	100-2pg/L		12 W	76	13C; Custom-made Sample Cont.	220
total chlorodibenzo-p-dioxins,	NONE	100-2pg/L		24 W	54	13C; Custom-made Sample Cont.	220
total chlorodibenzo-p-dioxins,	PH 10	1 ppb	4	14 D	76	2,3,7,8	89
total chlorodibenzo-p-dioxins,	PH 10	1 ppb	25	14 D	81	2,3,7,8	89
total chlorodibenzo-p-dioxins,	PH 2	1 ppb	4	14 D	81	2,3,7,8	89
total chlorodibenzo-p-dioxins,	PH 2	1 ppb	25	14 D	95	2,3,7,8	89
total chlorodibenzo-p-dioxins,	PH 7	1 ppb	25	14 D	85	2,3,7,8	89
total chlorodibenzo-p-dioxins,	PH 7	1 ppb	4	14 D	74	2,3,7,8	89
total chlorodibenzo-p-dioxins,	PH10,10PPMCL	1 ppb	25	14 D	41	2,3,7,8	89
total chlorodibenzo-p-dioxins,	PH10,10PPMCL	1 ppb	4	14 D	57	2,3,7,8	89
total chlorodibenzo-p-dioxins,	PH2, 10PPMCL	1 ppb	25	14 D	65	2,3,7,8	89
total chlorodibenzo-p-dioxins,	PH2, 10PPMCL	1 ppb	4	14 D	67	2,3,7,8	89
total chlorodibenzo-p-dioxins,	PH7, 10PPMCL	1 ppb	25	14 D	49	2,3,7,8	89
total chlorodibenzo-p-dioxins,	PH7, 10PPMCL	1 ppb	4	14 D	74	2,3,7,8	89

COMPOUND CLASS PROFILE

Chlorinated Dibenzo-p-dioxins and Dibenzofurans

Sediment:

Existing Criteria: None

Experimental Data: None

Data Evaluation: None

Data Deficiencies: No data obtained

Storage Recommendations: Tentative recommendation - seal and store samples at -20°C and complete analysis as soon as possible.

COMPOUND CLASS PROFILE

Chlorinated Dibenzo-p-dioxins and Dibenzofurans

Vegetation:

Existing Criteria:	None
Experimental Data:	None
Data Evaluation:	None
Data Deficiencies:	No data obtained
Storage Recommendations:	Tentative recommendation - seal and store samples at -20°C and complete analysis as soon as possible.

COMPOUND CLASS PROFILE

Chlorinated Dibenzo-p-dioxins and Dibenzofurans

Waste Water:

Existing Criteria:	U.S. EPA Sampling Manual Collect in amber glass container with teflon cap; 0.008% $Na_2S_2O_3$; refrigerate; extract within 7 days; analyze within 40 days of extraction.
Experimental Data:	None
Data Evaluation:	None
Data Deficiencies:	No data obtained
Storage Recommendations:	Tentative recommendation - Follow U.S. EPA protocol of collection in an amber glass bottle with teflon cap, add 0.008% $Na_2S_2O_3$ if chlorine present; refrigerate; extract within 7 days and analyze.

COMPOUND CLASS PROFILE

Neutral Chlorinated Extractables

Air - Canister or Bag:

Existing Criteria:	None
Experimental Data:	Two Studies. No preservation. One to 4 ppb level. Storage at 25°C for up to 30 days.
Data Evaluation:	None
Data Deficiencies:	Data is insufficient for detailed analysis. Only 2 data entries each for hexachlorobutadiene and 1,2,4-trichlorobenzene available. No data obtained for remainder of compounds on target list.
Storage Recommendations:	Tentative recommendation - store SUMMA canisters or glass sample containers at 25°C for up to 12 days before analysis.

COMPOUND CLASS: *Neutral Chlorinated Extractables* MATRIX: *Air - Canister* RUN DATE: *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME		RECOVERY	COMMENT	REFERENCE
hexachlorobutadiene (HCBD)									
	NONE	0.98 - 1.05	ppb	25	30 - 30	D	84 - 133		
				Average Recovery:			109	Std. Dev.: 26.5	
1,2,4-trichlorobenzene									
	NONE	3.6 - 3.6	ppb	25	4 - 7	D	100 - 100		
				Average Recovery:			100	Std. Dev.: 0.0	

Matrix: Air - Canisters Class: Neutral Chlorinated Extracables

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
hexachlorobutadiene (HCBD)		0.98 ppb	25	30 D	84		8
hexachlorobutadiene (HCBD)		1.05 ppb	25	30 D	133		8
1,2,4-trichlorobenzene		3.6 ppb	25	4 D	100		10
1,2,4-trichlorobenzene		3.6 ppb	25	7 D	100		10

COMPOUND CLASS PROFILE

Neutral Chlorinated Extractables

Air - Filter:

Existing Criteria: None

Experimental Data: None

Data Evaluation: None

Data Deficiencies: No data obtained

Storage Recommendations: Tentative recommendation - store filters at -20°C under air-argon gas mixture. Samples are stable for at least 2 years.

COMPOUND CLASS PROFILE

Neutral Chlorinated Extractables

Air - Sorbent Trap:

Existing Criteria: None

Experimental Data: None

Data Evaluation: None

Data Deficiencies: No data obtained

Storage Recommendations: Tentative recommendation - follow U.S. E.P.A. protocol of sampling with distributed air volume sets. Sample tubes are sealed; refrigerated; analysis to be completed between 7 and 30 days after sampling.

COMPOUND CLASS PROFILE

Neutral Chlorinated Extractables

Biota:

Existing Criteria: None

Experimental Data: Three studies, compared temperature, time, and preservation techniques (freezing, freeze-drying).

Data Evaluation: For most of the compounds listed, freeze-drying is acceptable. For PCB's in fish, freezing is acceptable for up to 1 year.

Data Deficiencies: Insufficient or no data obtained for most of the compounds on the target list.

Storage Recommendations: Store PCB's at -20°C with no preservation for at least one year before analysis. Other compounds, store at -40°C for 4 weeks with no preservation or freeze drying; storage at -40°C for up to 6 months.

COMPOUND CLASS: *Neutral Chlorinated Extractables* MATRIX: *Biota* RUN DATE: *13-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME	RECOVERY	COMMENT	REFERENCE
aldrin								
	FREEZE-DRY	.038 - 0.38	mg/kg		16 - 23 D	82 - 95		
				Average Recovery:		91	Std. Dev.: 4.2	
a-chlordane								
	FREEZE-DRY	.018 - 0.31	mg/kg		3 - 23 D	90 - 117		
				Average Recovery:		102	Std. Dev.: 8.2	
g-chlordane								
	FREEZE-DRY	.024 - 0.24	mg/kg		16 - 23 D	92 - 100		
				Average Recovery:		95	Std. Dev.: 2.4	
p,p'-ddd								
	FREEZE-DRY	.062 - 0.62	mg/kg		23 - 23 D	51 - 105		
				Average Recovery:		69	Std. Dev.: 22.0	
	NONE	-		-40	1 - 2 Y	44 - 93		
				Average Recovery:		69	Std. Dev.: 21.0	
p,p'-dde								
	FREEZE-DRY	.03 - 4.8	mg/kg	23	3 - 23 M	93 - 146		
				Average Recovery:		107	Std. Dev.: 17.3	
	NONE	7 - 7	mg/kg	-35	48 - 48 M	100 - 100		
				Average Recovery:		100	Std. Dev.: 0.0	
	TIN CANS	-		21	6 - 36 M	51 - 97		
				Average Recovery:		79	Std. Dev.: 12.2	
4,4'-ddt								
	FREEZE-DRY	.03 - 0.030	mg/kg		23 - 23 D	42 - 107		
				Average Recovery:		70	Std. Dev.: 28.9	
dieldrin								
	FREEZE-DRY	.038 - 0.38	mg/kg		3 - 23 D	84 - 108		
				Average Recovery:		96	Std. Dev.: 6.2	
	NONE	0.25 - 0.25	mg/kg	-35	48 - 48 M	100 - 100		
				Average Recovery:		100	Std. Dev.: 0.0	
2,8-dih-mirex								

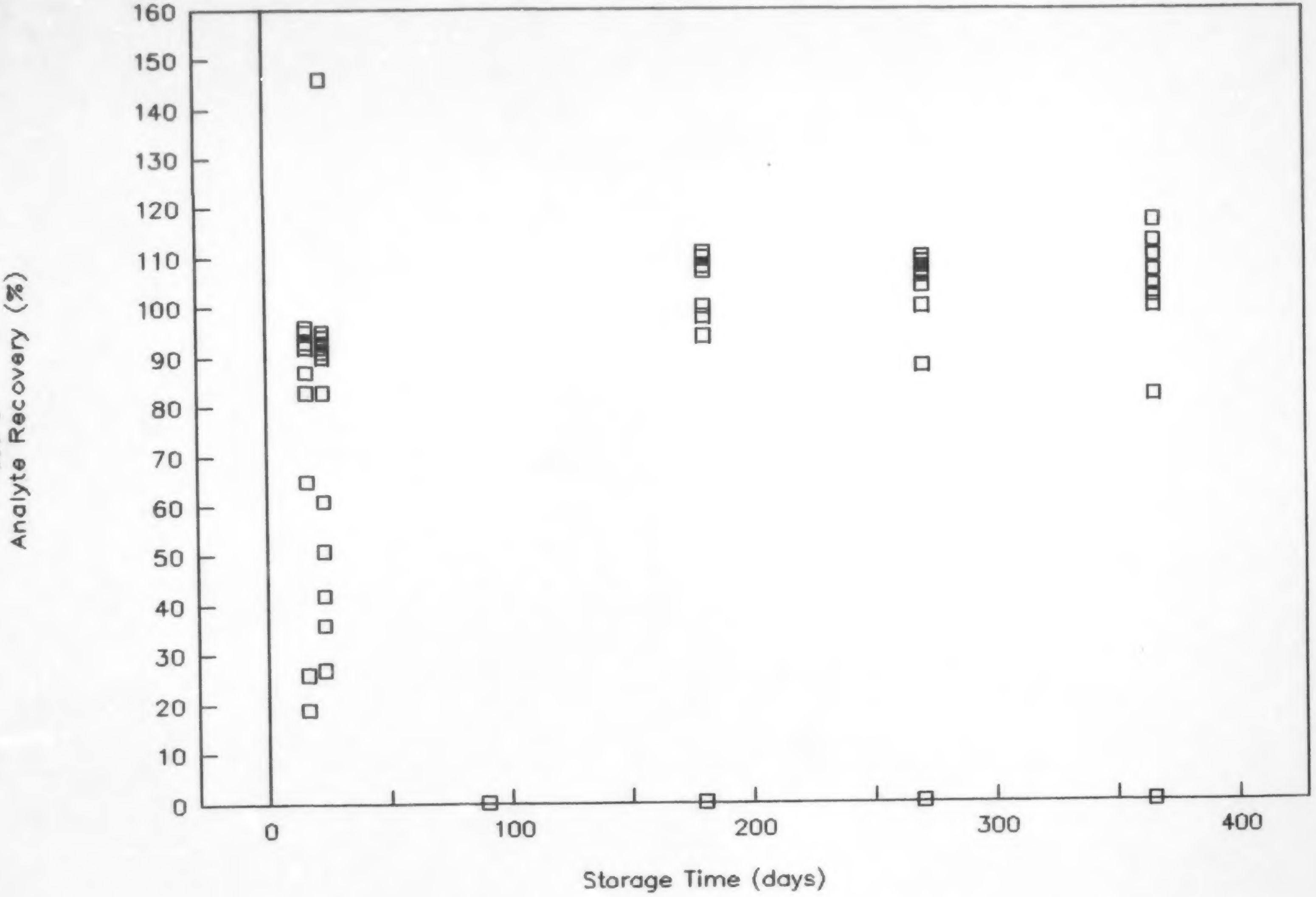
COMPOUND CLASS: *Neutral Chlorinated Extractables* **MATRIX:** *Biota* **RUN DATE:** *13-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME		RECOVERY	COMMENT	REFERENCE
2.8-dih-mirex									
	FREEZE-DRY	.039 - 0.39	mg/kg		3 - 23	D	92 - 113		
				Average Recovery:			101	Std. Dev.: 6.9	
	NONE	0.1 - 0.1	mg/kg	-35	1 - 25	M	42 - 100		
				Average Recovery:			66	Std. Dev.: 19.4	
heptachlor									
	FREEZE-DRY	.047 - 0.47	mg/kg		16 - 23	D	76 - 94		
				Average Recovery:			88	Std. Dev.: 5.4	
heptachlor epoxide									
	FREEZE-DRY	.029 - 0.29	mg/kg		3 - 23	D	79 - 100		
				Average Recovery:			94	Std. Dev.: 6.0	
	NONE	0.1 - 0.1	mg/kg	-35	48 - 48	M	100 - 100		
				Average Recovery:			100	Std. Dev.: 0.0	
hexachlorobenzene									
	FREEZE-DRY	.028 - 0.28	mg/kg		3 - 23	D	56 - 108		
				Average Recovery:			92	Std. Dev.: 14.7	
	NONE	0.20 - 0.20	mg/kg	-35	48 - 48	M	100 - 100		
				Average Recovery:			100	Std. Dev.: 0.0	
	TIN CANS	-		21	6 - 36	M	66 - 98		
				Average Recovery:			85	Std. Dev.: 9.8	
nonachlor									
	FREEZE-DRY	.03 - 0.30	mg/kg		3 - 23	D	87 - 110		
				Average Recovery:			100	Std. Dev.: 7.2	
oxychlordane									
	FREEZE-DRY	.2 - 0.17	mg/kg	23	3 - 12	M	82 - 105		
				Average Recovery:			97	Std. Dev.: 9.2	
	NONE	0.15 - 0.15	mg/kg	-35	27 - 27	M	100 - 100		
				Average Recovery:			100	Std. Dev.: 0.0	
pentachlorobenzene									
	FREEZE-DRY	.01 - 0.10	mg/kg		16 - 23	D	26 - 90		
				Average Recovery:			62	Std. Dev.: 17.4	

COMPOUND CLASS: *Neutral Chlorinated Extractables* MATRIX: *Biota* RUN DATE: *13-Oct-89*

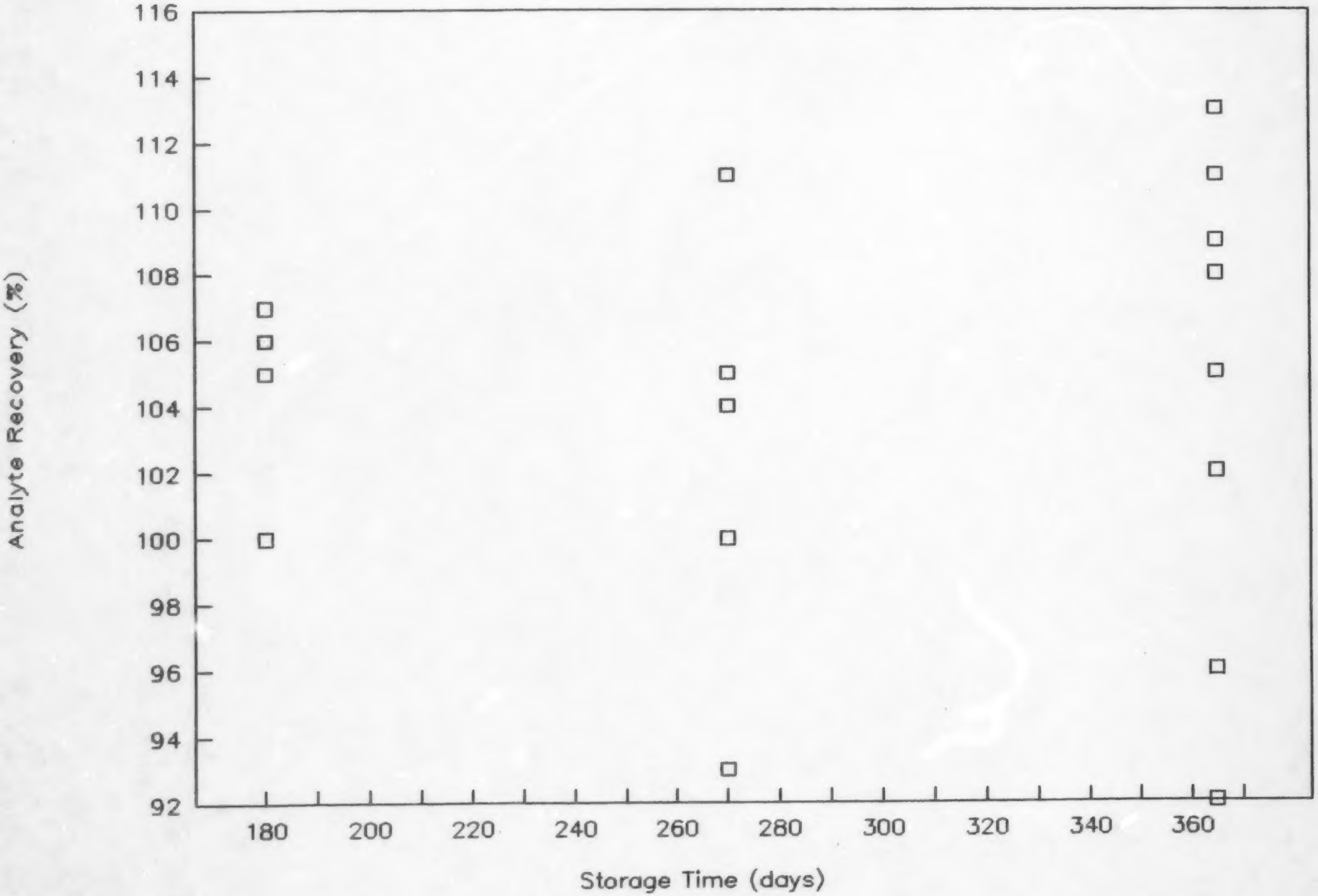
COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME	RECOVERY	COMMENT	REFERENCE
1,2,3,5-tetrachlorobenzene								
	FREEZE-DRY	.05 - 0.50	mg/kg		16 - 23 D	15 - 82		
				Average Recovery:		37	Std. Dev.: 19.9	
total pcbs								
	NONE	2-6 - 90	mg/kg	-35	1 - 48 M	79 - 118		
				Average Recovery:		103	Std. Dev.: 9.8	
1,2,3-trichlorobenzene								
	FREEZE-DRY	.07 - 0.70	mg/kg		16 - 23 D	10 - 69		
				Average Recovery:		27	Std. Dev.: 17.9	

Figure A-20 Analyte Recovery of Freeze Dried Samples at Above Freezing Temperatures for Neutral Chlorinated Extractables in Biota Matrix



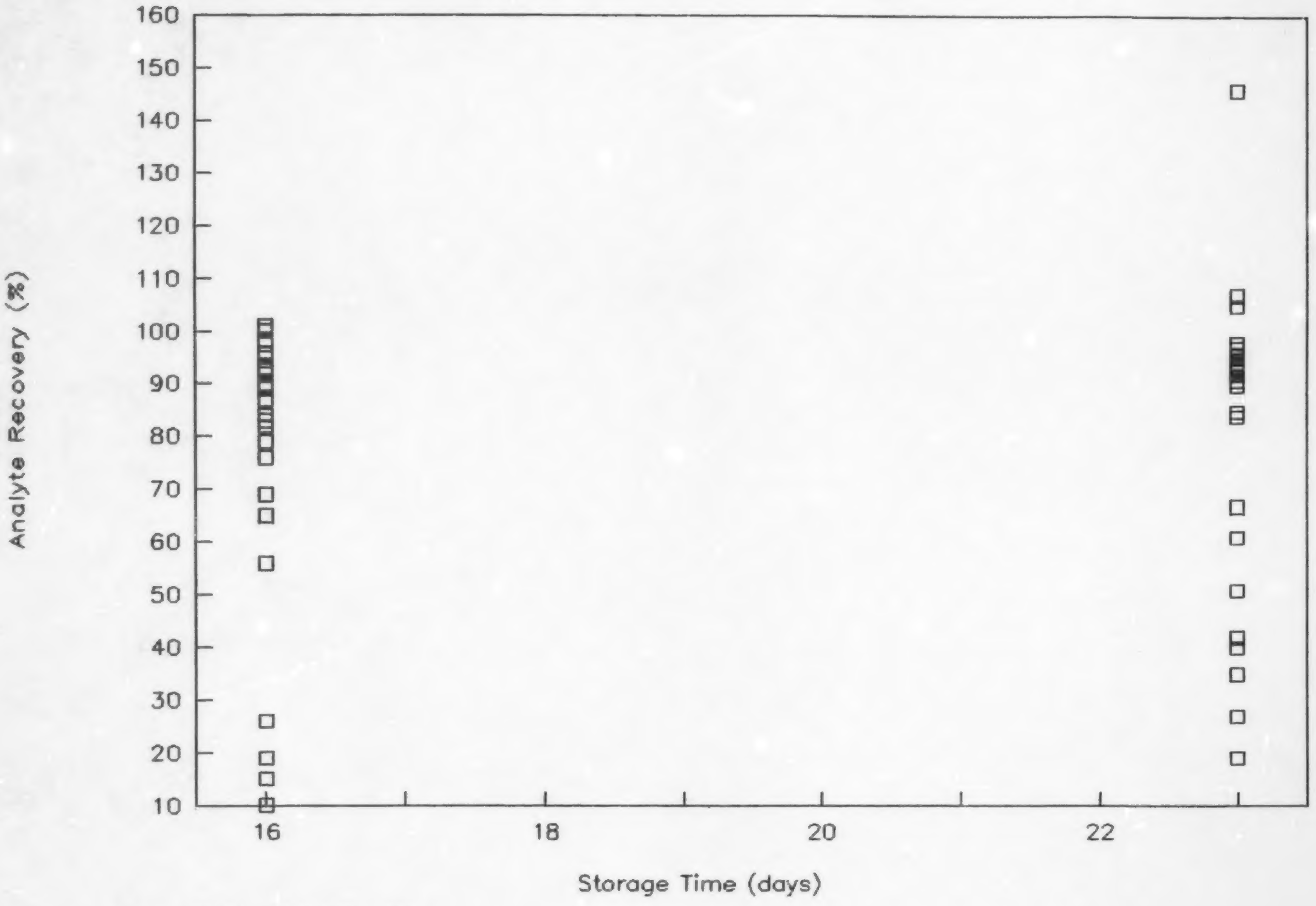
Ref: ASC 223, 321

Figure A-21 Analyte Recovery of Freeze Dried Samples at Below Freezing Temperatures for Neutral Chlorinated Extractables in Biota Matrix



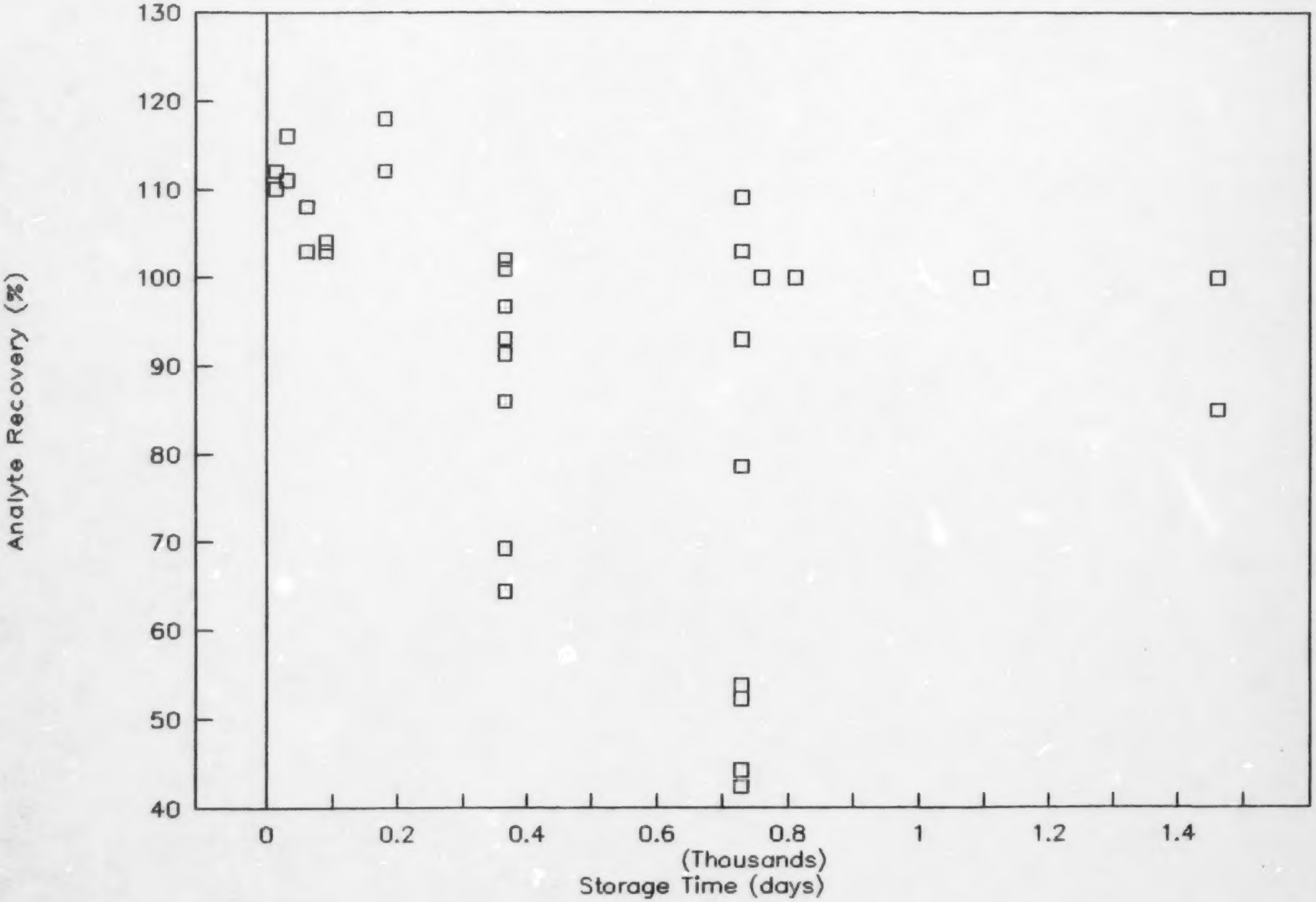
Ref: ASC 223, 321

Figure A-22 Analyte Recovery of Freeze Dried Samples for Neutral Chlorinated Extractables in Biota Matrix



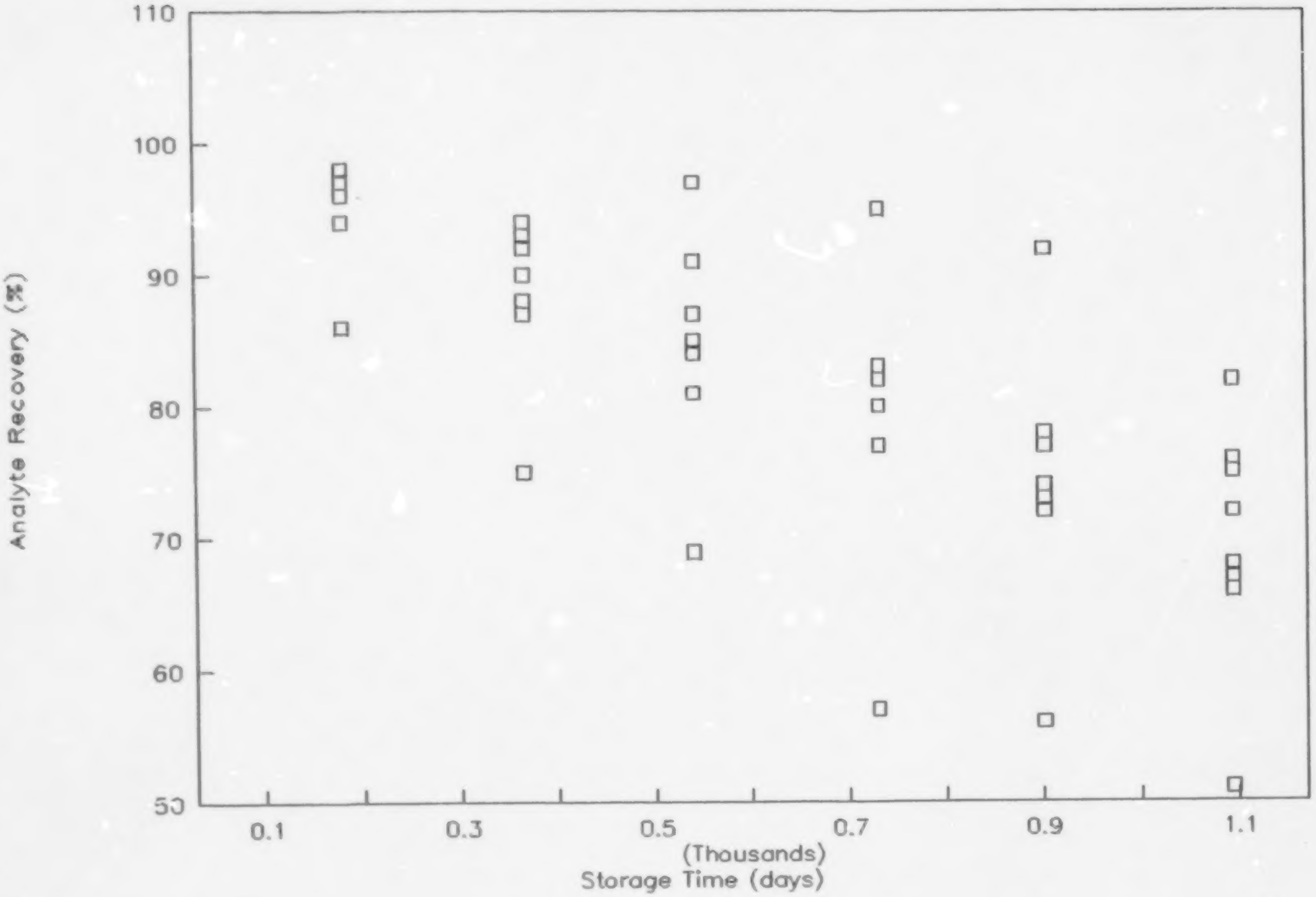
Ref: ASC 223, 321

Figure A-23 Analyte Recovery with no Preservatives for Neutral Chlorinated Extractables in Biota Matrix



Ref: ASC 221, 222, 224

Figure A-24 Analyte Recovery in Tin Cans of Processed Meat for Neutral Chlorinated Extractables in Biota Matrix



Ref: ASC 307

Matrix: Biota Class: Neutral Chlorinated Extractables

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
aldrin	FREEZE DRIED	0.03 mg/Kg	25	16 D	92		321
aldrin	FREEZE DRIED	0.36 mg/Kg	25	23 D	93		321
aldrin	FREEZE-DRY	0.03 mg/kg		16 D	82	dried, not stored	223
aldrin	FREEZE-DRY	0.03 mg/kg		16 D	92	dried, stored	223
aldrin	FREEZE-DRY	0.03 mg/kg		16 D	87	wet sample	223
aldrin	FREEZE-DRY	0.36 mg/kg		23 D	93	dried, stored	223
aldrin	FREEZE-DRY	0.36 mg/kg		23 D	95	dried, not stored	223
a-chlordane	FREEZE DRIED	0.01 mg/Kg	23	6 M	111	DARK	321
a-chlordane	FREEZE DRIED	0.01 mg/Kg	-23	6 M	106	DARK	321
a-chlordane	FREEZE DRIED	0.01 mg/Kg	23	9 M	106	DARK	321
a-chlordane	FREEZE DRIED	0.01 mg/Kg	-23	9 M	111	DARK	321
a-chlordane	FREEZE DRIED	0.01 mg/Kg	-23	12 M	111	DARK	321
a-chlordane	FREEZE DRIED	0.01 mg/Kg	23	12 M	117	DARK	321
a-chlordane	FREEZE DRIED	0.03 mg/Kg	25	16 D	96		321
a-chlordane	FREEZE DRIED	0.31 mg/Kg	25	23 D	94		321
a-chlordane	FREEZE-DRY	0.01 mg/kg	23	3 M	0	dark storage	223
a-chlordane	FREEZE-DRY	0.01 mg/kg	23	9 M	0	dark storage	223
a-chlordane	FREEZE-DRY	0.02 mg/kg	23	6 M	0	dark storage	223
a-chlordane	FREEZE-DRY	0.02 mg/kg	23	12 M	0	dark storage	223
a-chlordane	FREEZE-DRY	0.03 mg/kg		16 D	96	dried, stored	223
a-chlordane	FREEZE-DRY	0.03 mg/kg		16 D	90	wet sample	223
a-chlordane	FREEZE-DRY	0.03 mg/kg		16 D	100	dried, not stored	223
a-chlordane	FREEZE-DRY	0.31 mg/kg		23 D	96	dried, not stored	223
a-chlordane	FREEZE-DRY	0.31 mg/kg		23 D	94	dried, stored	223
g-chlordane	FREEZE DRIED	0.02 mg/Kg	25	16 D	95		321
g-chlordane	FREEZE DRIED	0.24 mg/Kg	25	23 D	93		321
g-chlordane	FREEZE-DRY	0.02 mg/kg		16 D	100	dried, not stored	223
g-chlordane	FREEZE-DRY	0.02 mg/kg		16 D	92	wet sample	223
g-chlordane	FREEZE-DRY	0.02 mg/kg		16 D	95	dried, stored	223
g-chlordane	FREEZE-DRY	0.24 mg/kg		23 D	93	dried, stored	223
g-chlordane	FREEZE-DRY	0.24 mg/kg		23 D	95	dried, not stored	223
p,p'-ddd	FREEZE DRIED	0.06 mg/Kg	25	23 D	51		321
p,p'-ddd	FREEZE DRIED	0.62 mg/Kg	25	23 D	51		321
p,p'-ddd	FREEZE-DRY	0.06 mg/kg		23 D	105	wet sample	223
p,p'-ddd	FREEZE-DRY	0.06 mg/kg		23 D	84	dried, not stored	223
p,p'-ddd	FREEZE-DRY	0.06 mg/kg		23 D	51	dried, stored	223
p,p'-ddd	FREEZE-DRY	0.62 mg/kg		23 D	51	dried, stored	223
p,p'-ddd	FREEZE-DRY	0.62 mg/kg		23 D	93	dried, not stored	223
p,p'-ddd	NONE		-40	1 Y	93.1	fish	222
p,p'-ddd	NONE		-20	1 Y	86	fish	222
p,p'-ddd	NONE		-20	2 Y	44.2	fish	222
p,p'-ddd	NONE		-40	2 Y	52.3	fish	222
p,p'-dde	FREEZE DRIED	0.03 mg/Kg	25	23 D	146		321
p,p'-dde	FREEZE DRIED	0.3 mg/Kg	25	23 D	95		321
p,p'-dde	FREEZE DRIED	4.6 mg/Kg	-23	6 M	107	DARK	321
p,p'-dde	FREEZE DRIED	4.6 mg/Kg	23	6 M	96	DARK	321
p,p'-dde	FREEZE DRIED	4.6 mg/Kg	23	9 M	109	DARK	321
p,p'-dde	FREEZE DRIED	4.6 mg/Kg	-23	9 M	104	DARK	321
p,p'-dde	FREEZE DRIED	4.6 mg/Kg	-23	12 M	102	DARK	321

Matrix: Biota Class: Neutral Chlorinated Extractables

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
p,p'-dde	FREEZE DRIED	4.6 mg/Kg	23	12 M	102	DARK	321
p,p'-dde	FREEZE-DRY	0.03 mg/kg		23 D	93	wet sample	223
p,p'-dde	FREEZE-DRY	0.03 mg/kg		23 D	146	dried, sample	223
p,p'-dde	FREEZE-DRY	0.03 mg/kg		23 D	95	dried, not sample	223
p,p'-dde	FREEZE-DRY	0.3 mg/kg		23 D	96	dried, stored	223
p,p'-dde	FREEZE-DRY	0.3 mg/kg		23 D	98	dried, not stored	223
p,p'-dde	FREEZE-DRY	4.5 mg/kg	23	6 M	0	dark storage	223
p,p'-dde	FREEZE-DRY	4.6 mg/kg	23	3 M	0	dark storage	223
p,p'-dde	FREEZE-DRY	4.7 mg/kg	23	12 M	0	dark storage	223
p,p'-dde	FREEZE-DRY	4.8 mg/kg	23	9 M	0	dark storage	223
p,p'-dde	NONE	7 mg/kg	-35	48 M	100	herring gull egg homogenates	224
p,p'-dde	TIN CANS		21	6 M	86	rel hum 75%, liver pate	307
p,p'-dde	TIN CANS		21	6 M	96	rel hum 75%, pork	307
p,p'-dde	TIN CANS		21	6 M	97	rel hum 75%, luncheon meat	307
p,p'-dde	TIN CANS		21	6 M	94	rel hum 75%, beef with bacon	307
p,p'-dde	TIN CANS		21	12 M	92	rel hum 75%, luncheon meat	307
p,p'-dde	TIN CANS		21	12 M	75	rel hum 75%, liver pate	307
p,p'-dde	TIN CANS		21	12 M	88	rel hum 75%, beef with bacon	307
p,p'-dde	TIN CANS		21	12 M	90	rel hum 75%, pork	307
p,p'-dde	TIN CANS		21	18 M	89	rel hum 75%, liver pate	307
p,p'-dde	TIN CANS		21	18 M	87	rel hum 75%, luncheon meat	307
p,p'-dde	TIN CANS		21	18 M	85	rel hum 75%, beef with bacon	307
p,p'-dde	TIN CANS		21	18 M	[illegible]	rel hum 75%, pork	307
p,p'-dde	TIN CANS		21	24 M	80	rel hum 75%, beef with bacon	307
p,p'-dde	TIN CANS		21	24 M	82	rel hum 75%, pork	307
p,p'-dde	TIN CANS		21	24 M	77	rel hum 75%, luncheon meat	307
p,p'-dde	TIN CANS		21	24 M	57	rel hum 75%, liver pate	307
p,p'-dde	TIN CANS		21	30 M	58	rel hum 75%, liver pate	307
p,p'-dde	TIN CANS		21	30 M	77	rel hum 75%, pork	307
p,p'-dde	TIN CANS		21	30 M	73	rel hum 75%, luncheon meat	307
p,p'-dde	TIN CANS		21	30 M	78	rel hum 75%, beef with bacon	307
p,p'-dde	TIN CANS		21	36 M	51	rel hum 75%, liver pate	307
p,p'-dde	TIN CANS		21	36 M	72	rel hum 75%, beef with bacon	307
p,p'-dde	TIN CANS		21	36 M	67	rel hum 75%, luncheon meat	307
p,p'-dde	TIN CANS		21	36 M	76	rel hum 75%, pork	307
4,4'-ddt	FREEZE DRIED	0.03 mg/Kg	25	23 D	42		321
4,4'-ddt	FREEZE-DRY	0.03 mg/kg		23 D	107	wet sample	223
4,4'-ddt	FREEZE-DRY	0.03 mg/kg		23 D	42	dried, stored	223
4,4'-ddt	FREEZE-DRY	0.03 mg/kg		23 D	90	dried, not stored	223
dieldrin	FREEZE DRIED	0.03 mg/Kg	25	16 D	93		321
dieldrin	FREEZE DRIED	0.29 mg/Kg	-23	6 M	100	DARK	321
dieldrin	FREEZE DRIED	0.29 mg/Kg	23	6 M	108	DARK	321
dieldrin	FREEZE DRIED	0.29 mg/Kg	-23	9 M	93	DARK	321
dieldrin	FREEZE DRIED	0.29 mg/Kg	23	9 M	104	DARK	321
dieldrin	FREEZE DRIED	0.29 mg/Kg	-23	12 M	96	DARK	321
dieldrin	FREEZE DRIED	0.29 mg/Kg	23	12 M	104	DARK	321
dieldrin	FREEZE DRIED	0.38 mg/Kg	25	23 D	92		321
dieldrin	FREEZE-DRY	0.03 mg/kg		16 D	93	dried, ctored	223
dieldrin	FREEZE-DRY	0.03 mg/kg		16 D	84	wet sample	223

Matrix: Biota

Class: Neutral Chlorinated Extractables

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
dieldrin	FREEZE-DRY	0.03 mg/kg		16 D	98	dried, not stored	223
dieldrin	FREEZE-DRY	0.25 mg/kg	23	3 M	0	dark storage	223
dieldrin	FREEZE-DRY	0.26 mg/kg	23	9 M	0	dark storage	223
dieldrin	FREEZE-DRY	0.27 mg/kg	23	6 M	0	dark storage	223
dieldrin	FREEZE-DRY	0.27 mg/kg	23	12 M	0	dark storage	223
dieldrin	FREEZE-DRY	0.38 mg/kg		23 D	95	dried, not stored	223
dieldrin	FREEZE-DRY	0.38 mg/kg		23 D	92	dried, stored	223
dieldrin	NONE	0.25 mg/kg	-35	48 M	100	herring gull egg homogenates	224
2,8-dih-mirex	FREEZE DRIED	0.03 mg/Kg	25	16 D	95		321
2,8-dih-mirex	FREEZE DRIED	0.16 mg/Kg	23	6 M	107	DARK	321
2,8-dih-mirex	FREEZE DRIED	0.16 mg/Kg	-23	6 M	100	DARK	321
2,8-dih-mirex	FREEZE DRIED	0.16 mg/Kg	23	9 M	107	DARK	321
2,8-dih-mirex	FREEZE DRIED	0.16 mg/Kg	-23	9 M	100	DARK	321
2,8-dih-mirex	FREEZE DRIED	0.16 mg/Kg	23	12 M	113	DARK	321
2,8-dih-mirex	FREEZE DRIED	0.16 mg/Kg	-23	12 M	113	DARK	321
2,8-dih-mirex	FREEZE DRIED	0.39 mg/Kg	25	23 D	94		321
2,8-dih-mirex	FREEZE-DRY	0.03 mg/kg		16 D	95	dried, stored	223
2,8-dih-mirex	FREEZE-DRY	0.03 mg/kg		16 D	92	wet sample	223
2,8-dih-mirex	FREEZE-DRY	0.03 mg/kg		16 D	101	dried, not stored	223
2,8-dih-mirex	FREEZE-DRY	0.15 mg/kg	23	3 M	0	dark storage	223
2,8-dih-mirex	FREEZE-DRY	0.16 mg/kg	23	6 M	0	dark storage	223
2,8-dih-mirex	FREEZE-DRY	0.16 mg/kg	23	9 M	0	dark storage	223
2,8-dih-mirex	FREEZE-DRY	0.17 mg/kg	23	12 M	0	dark storage	223
2,8-dih-mirex	FREEZE-DRY	0.39 mg/kg		23 D	94	dried, stored	223
2,8-dih-mirex	FREEZE-DRY	0.39 mg/kg		23 D	98	dried, not stored	223
2,8-dih-mirex	NONE		-20	1 Y	64.4	fish	222
2,8-dih-mirex	NONE		-40	1 Y	69.3	fish	222
2,8-dih-mirex	NONE		-20	2 Y	42.3	fish	222
2,8-dih-mirex	NONE		-40	2 Y	53.8	fish	222
2,8-dih-mirex	NONE	0.1 mg/kg	-35	25 M	100	herring gull egg homogenates	224
heptachlor	FREEZE DRIED	0.04 mg/Kg	25	16 D	87		321
heptachlor	FREEZE DRIED	0.47 mg/Kg	25	23 D	91		321
heptachlor	FREEZE-DRY	0.04 mg/kg		16 D	76	dried, not stored	223
heptachlor	FREEZE-DRY	0.04 mg/kg		16 D	89	wet sample	223
heptachlor	FREEZE-DRY	0.04 mg/kg		16 D	87	dried, stored	223
heptachlor	FREEZE-DRY	0.47 mg/kg		23 D	94	dried, not stored	223
heptachlor	FREEZE-DRY	0.47 mg/kg		23 D	91	dried, stored	223
heptachlor epoxide	FREEZE DRIED	0.02 mg/Kg	25	16 D	92		321
heptachlor epoxide	FREEZE DRIED	0.12 mg/Kg	-23	6 M	100	DARK	321
heptachlor epoxide	FREEZE DRIED	0.12 mg/Kg	23	6 M	100	DARK	321
heptachlor epoxide	FREEZE DRIED	0.12 mg/Kg	-23	9 M	100	DARK	321
heptachlor epoxide	FREEZE DRIED	0.12 mg/Kg	23	9 M	100	DARK	321
heptachlor epoxide	FREEZE DRIED	0.12 mg/Kg	-23	12 M	92	DARK	321
heptachlor epoxide	FREEZE DRIED	0.12 mg/Kg	23	12 M	100	DARK	321
heptachlor epoxide	FREEZE DRIED	0.29 mg/Kg	25	23 D	90		321
heptachlor epoxide	FREEZE-DRY	0.02 mg/kg		16 D	92	dried, stored	223
heptachlor epoxide	FREEZE-DRY	0.02 mg/kg		16 D	79	wet sample	223
heptachlor epoxide	FREEZE-DRY	0.02 mg/kg		16 D	89	dried, not stored	223
heptachlor epoxide	FREEZE-DRY	0.12 mg/kg	23	3 M	0	dark storage	223

Matrix: Biota Class: Neutral Chlorinated Extractables

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
heptachlor epoxide	FREEZE-DRY	0.12 mg/kg	23	6 M	0	dark storage	223
heptachlor epoxide	FREEZE-DRY	0.12 mg/kg	23	9 M	0	dark storage	223
heptachlor epoxide	FREEZE-DRY	0.12 mg/kg	23	12 M	0	dark storage	223
heptachlor epoxide	FREEZE-DRY	0.29 mg/kg		23 D	92	dried, not stored	223
heptachlor epoxide	FREEZE-DRY	0.29 mg/kg		23 D	90	dried, stored	223
heptachlor epoxide	NONE	0.1 mg/kg	-35	48 M	100	herring gull egg homogenates	224
hexachlorobenzene	FREEZE DRIED	0.02 mg/Kg	25	16 D	83		321
hexachlorobenzene	FREEZE DRIED	0.05 mg/Kg	23	6 M	100	DARK	321
hexachlorobenzene	FREEZE DRIED	0.05 mg/Kg	-23	6 M	105	DARK	321
hexachlorobenzene	FREEZE DRIED	0.05 mg/Kg	-23	9 M	105	DARK	321
hexachlorobenzene	FREEZE DRIED	0.05 mg/Kg	23	9 M	108	DARK	321
hexachlorobenzene	FREEZE DRIED	0.05 mg/Kg	-23	12 M	108	DARK	321
hexachlorobenzene	FREEZE DRIED	0.05 mg/Kg	23	12 M	107	DARK	321
hexachlorobenzene	FREEZE DRIED	0.28 mg/Kg	25	23 D	83		321
hexachlorobenzene	FREEZE-DRY	0.02 mg/kg		16 D	93	wet sample	223
hexachlorobenzene	FREEZE-DRY	0.02 mg/kg		16 D	56	dried, not stored	223
hexachlorobenzene	FREEZE-DRY	0.02 mg/kg		16 D	83	dried, stored	223
hexachlorobenzene	FREEZE-DRY	0.05 mg/kg	23	3 M	0	dark storage	223
hexachlorobenzene	FREEZE-DRY	0.05 mg/kg	23	6 M	0	dark storage	223
hexachlorobenzene	FREEZE-DRY	0.06 mg/kg	23	9 M	0	dark storage	223
hexachlorobenzene	FREEZE-DRY	0.06 mg/kg	23	12 M	0	dark storage	223
hexachlorobenzene	FREEZE-DRY	0.28 mg/kg		23 D	85	dried, not stored	223
hexachlorobenzene	FREEZE-DRY	0.28 mg/kg		23 D	84	dried, stored	223
hexachlorobenzene	NONE	0.2 mg/kg	-35	48 M	100	herring gull egg homogenates	224
hexachlorobenzene	TIN CANS		21	6 M	96	rel hum 75%, liver pate	307
hexachlorobenzene	TIN CANS		21	6 M	96	rel hum 75%, pork	307
hexachlorobenzene	TIN CANS		21	6 M	98	rel hum 75%, beef with bacon	307
hexachlorobenzene	TIN CANS		21	6 M	97	rel hum 75%, luncheon meat	307
hexachlorobenzene	TIN CANS		21	12 M	88	rel hum 75%, liver pate	307
hexachlorobenzene	TIN CANS		21	12 M	87	rel hum 75%, luncheon meat	307
hexachlorobenzene	TIN CANS		21	12 M	93	rel hum 75%, pork	307
hexachlorobenzene	TIN CANS		21	12 M	94	rel hum 75%, beef with bacon	307
hexachlorobenzene	TIN CANS		21	18 M	81	rel hum 75%, luncheon meat	307
hexachlorobenzene	TIN CANS		21	18 M	91	rel hum 75%, pork	307
hexachlorobenzene	TIN CANS		21	18 M	97	rel hum 75%, beef with bacon	307
hexachlorobenzene	TIN CANS		21	18 M	84	rel hum 75%, liver pate	307
hexachlorobenzene	TIN CANS		21	24 M	77	rel hum 75%, liver pate	307
hexachlorobenzene	TIN CANS		21	24 M	83	rel hum 75%, pork	307
hexachlorobenzene	TIN CANS		21	24 M	95	rel hum 75%, beef with bacon	307
hexachlorobenzene	TIN CANS		21	24 M	77	rel hum 75%, luncheon meat	307
hexachlorobenzene	TIN CANS		21	30 M	74	rel hum 75%, liver pate	307
hexachlorobenzene	TIN CANS		21	30 M	72	rel hum 75%, luncheon meat	307
hexachlorobenzene	TIN CANS		21	30 M	78	rel hum 75%, pork	307
hexachlorobenzene	TIN CANS		21	30 M	92	rel hum 75%, beef with bacon	307
hexachlorobenzene	TIN CANS		21	36 M	75	rel hum 75%, pork	307
hexachlorobenzene	TIN CANS		21	36 M	68	rel hum 75%, luncheon meat	307
hexachlorobenzene	TIN CANS		21	36 M	82	rel hum 75%, beef with bacon	307
hexachlorobenzene	TIN CANS		21	36 M	66	rel hum 75%, liver pate	307
nonachlor	FREEZE DRIED	0.03 mg/Kg	25	16 D	95		321

Matrix: Biota

Class: Neutral Chlorinated Extractables

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
nonachlor	FREEZE DRIED	0.1 mg/Kg	23	6 M	110	DARK	321
nonachlor	FREEZE DRIED	0.1 mg/Kg	-23	6 M	100	DARK	321
nonachlor	FREEZE DRIED	0.1 mg/Kg	23	9 M	110	DARK	321
nonachlor	FREEZE DRIED	0.1 mg/Kg	-23	9 M	100	DARK	321
nonachlor	FREEZE DRIED	0.1 mg/Kg	-23	12 M	109	DARK	321
nonachlor	FREEZE DRIED	0.1 mg/Kg	23	12 M	110	DARK	321
nonachlor	FREEZE DRIED	0.3 mg/Kg	25	23 D	95		321
nonachlor	FREEZE-DRY	0.03 mg/kg		16 D	96	dried, not stored	223
nonachlor	FREEZE-DRY	0.03 mg/kg		16 D	95	dried, stored	223
nonachlor	FREEZE-DRY	0.03 mg/kg		16 D	87	wet sample	223
nonachlor	FREEZE-DRY	0.1 mg/kg	23	3 M	0	dark storage	223
nonachlor	FREEZE-DRY	0.11 mg/kg	23	6 M	0	dark storage	223
nonachlor	FREEZE-DRY	0.11 mg/kg	23	9 M	0	dark storage	223
nonachlor	FREEZE-DRY	0.11 mg/kg	23	12 M	0	dark storage	223
nonachlor	FREEZE-DRY	0.3 mg/kg		23 D	96	dried, stored	223
nonachlor	FREEZE-DRY	0.3 mg/kg		23 D	97	dried, not stored	223
oxychlordane	FREEZE DRIED	0.2 mg/Kg	-23	6 M	105	DARK	321
oxychlordane	FREEZE DRIED	0.2 mg/Kg	23	6 M	94	DARK	321
oxychlordane	FREEZE DRIED	0.2 mg/Kg	23	9 M	88	DARK	321
oxychlordane	FREEZE DRIED	0.2 mg/Kg	-23	9 M	105	DARK	321
oxychlordane	FREEZE DRIED	0.2 mg/Kg	23	12 M	82	DARK	321
oxychlordane	FREEZE DRIED	0.2 mg/Kg	-23	12 M	105	DARK	321
oxychlordane	FREEZE-DRY	0.14 mg/kg	23	12 M	0	dark storage	223
oxychlordane	FREEZE-DRY	0.16 mg/kg	23	6 M	0	dark storage	223
oxychlordane	FREEZE-DRY	0.16 mg/kg	23	9 M	0	dark storage	223
oxychlordane	FREEZE-DRY	0.17 mg/kg	23	3 M	0	dark storage	223
oxychlordane	NONE	0.15 mg/kg	-35	27 M	100	herring gull egg homogenates	224
pentachlorobenzene	FREEZE DRIED	0.01 mg/Kg	25	16 D	65		321
pentachlorobenzene	FREEZE DRIED	0.1 mg/Kg	25	23 D	61		321
pentachlorobenzene	FREEZE-DRY	0.01 mg/kg		16 D	90	wet sample	223
pentachlorobenzene	FREEZE-DRY	0.01 mg/kg		16 D	26	dried, not stored	223
pentachlorobenzene	FREEZE-DRY	0.01 mg/kg		16 D	65	dried, stored	223
pentachlorobenzene	FREEZE-DRY	0.1 mg/kg		23 D	61	dried, stored	223
pentachlorobenzene	FREEZE-DRY	0.1 mg/kg		23 D	67	dried, not stored	223
1,2,3,5-tetrachlorobenzene	FREEZE DRIED	0.05 mg/Kg	25	16 D	26		321
1,2,3,5-tetrachlorobenzene	FREEZE DRIED	0.5 mg/Kg	25	23 D	36		321
1,2,3,5-tetrachlorobenzene	FREEZE-DRY	0.05 mg/kg		16 D	82	wet sample	223
1,2,3,5-tetrachlorobenzene	FREEZE-DRY	0.05 mg/kg		16 D	15	dried, not stored	223
1,2,3,5-tetrachlorobenzene	FREEZE-DRY	0.05 mg/kg		16 D	26	dried, stored	223
1,2,3,5-tetrachlorobenzene	FREEZE-DRY	0.5 mg/kg		23 D	35	dried, stored	223
1,2,3,5-tetrachlorobenzene	FREEZE-DRY	0.5 mg/kg		23 D	40	dried,not stored	223
total pcbs	NONE		-40	1 Y	101	fish	222
total pcbs	NONE		-20	1 Y	91.3	fish	222
total pcbs	NONE		-40	2 Y	93	fish	222
total pcbs	NONE		-20	2 Y	78.6	fish	222
total pcbs	NONE	2-6 ppm	-70	1 Y	96.7	fresh fish fillets-skin on	221
total pcbs	NONE	2-6 ppm	-20	1 Y	102	fresh fish fillets-skin on	221
total pcbs	NONE	2-6 ppm	-20	2 W	112	fresh fish fillets-skin on	221
total pcbs	NONE	2-6 ppm	-70	2 W	110	fresh fish fillets-skin on	221

Matrix: Biota Class: Neutral Chlorinated Extractables

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
total pcbs	NONE	2-6 ppm	-20	2 Y	109	fresh fish fillets-skin on	221
total pcbs	NONE	2-6 ppm	-70	2 Y	103	fresh fish fillets-skin on	221
total pcbs	NONE	2-6 ppm	-70	3 M	103	fresh fish fillets-skin on	221
total pcbs	NONE	2-6 ppm	-20	3 M	104	fresh fish fillets-skin on	221
total pcbs	NONE	2-6 ppm	-20	4 W	116	fresh fish fillets-skin on	221
total pcbs	NONE	2-6 ppm	-70	4 W	111	fresh fish fillets-skin on	221
total pcbs	NONE	2-6 ppm	-70	6 M	118	fresh fish fillets-skin on	221
total pcbs	NONE	2-6 ppm	-20	6 M	112	fresh fish fillets-skin on	221
total pcbs	NONE	2-6 ppm	-20	8 W	108	fresh fish fillets-skin on	221
total pcbs	NONE	2-6 ppm	-70	8 W	103	fresh fish fillets-skin on	221
total pcbs	NONE	25 mg/kg	-35	36 M	100	herring gull egg homogenates	224
total pcbs	NONE	90 mg/kg	-35	48 M	85	herring gull egg homogenates	224
1,2,3-trichlorobenzene	FREEZE DRIED	0.07 mg/Kg	25	16 D	19		321
1,2,3-trichlorobenzene	FREEZE DRIED	0.7 mg/Kg	25	23 D	27		321
1,2,3-trichlorobenzene	FREEZE-DRY	0.07 mg/kg		16 D	69	wet sample	223
1,2,3-trichlorobenzene	FREEZE-DRY	0.07 mg/kg		16 D	19	dried, stored	223
1,2,3-trichlorobenzene	FREEZE-DRY	0.07 mg/kg		16 D	10	dried, not stored	223
1,2,3-trichlorobenzene	FREEZE-DRY	0.7 mg/kg		23 D	27	dried, stored	223
1,2,3-trichlorobenzene	FREEZE-DRY	0.7 mg/kg		23 D	19	dried,not stored	223

COMPOUND CLASS PROFILE

Neutral Chlorinated Extractables

Drinking/Surface Water:

Existing Criteria:	U.S. EPA Sampling Manual. Collect in amber glass container with teflon lined cap; pH 5-9; refrigerate; extract within 7 days; analyze within 40 days of extraction.
Experimental Data:	One major study. Preservation with $CuSO_4$ and Chloroform studied. 100-400 ng/L level in several natural waters and in reagent water.
Data Evaluation:	Statistical Evaluation of $CuSO_4$ vs $CHCl_3$. Chloroform gives higher recoveries, demonstrates sample stability within 1 S.D. for all compounds for 15 weeks study duration.
Data Deficiencies:	No data obtained for chlorobenzenes, toxaphene, total PCB, OCS, nonachlor, chlorotoluenes, HCBD, hexachlorocyclopentadiene.
Storage Recommendations:	Store samples at 4°C with no preservation, extract within 6 weeks and analyze. For longer storage times, addition of chloroform will increase storage time to 15 weeks.

COMPOUND CLASS: *Neutral Chlorinated Extractables* MATRIX: *Drinking/Surface Water* RUN DATE: *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME		RECOVERY	COMMENT	REFERENCE
aldrin	CHLOROFORM	0.1 - 0.1	ug/L	4	3 - 15	W	61 - 106		
				Average Recovery:			85	Std. Dev.: 13.5	
	CUSO4	0.1 - 0.1	ug/L	4	3 - 15	W	53 - 88		
				Average Recovery:			68	Std. Dev.: 13.6	
	NONE	-		4	6 - 6	W	100 - 100		
				Average Recovery:			100	Std. Dev.: 0.0	
alpha-BHC	CHLOROFORM	0.1 - 0.1	ug/L	4	3 - 63	W	56 - 100		
				Average Recovery:			82	Std. Dev.: 14.5	
	CUSO4	0.1 - 0.1	ug/L	4	3 - 15	W	88 - 100		
				Average Recovery:			97	Std. Dev.: 5.2	
	PH=2	2 - 2	ug/L	4	0 - 14	D	92 - 108		
				Average Recovery:			98	Std. Dev.: 6.9	
	PH=7	2 - 2	ug/L	4	0 - 21	D	75 - 105		
				Average Recovery:			92	Std. Dev.: 9.7	
	PH=9	2 - 2	ug/L	4	0 - 14	D	95 - 105		
				Average Recovery:			100	Std. Dev.: 4.1	
beta-BHC	CHLOROFORM	0.1 - 0.1	ug/L	4	3 - 15	W	75 - 105		
				Average Recovery:			93	Std. Dev.: 8.4	
	CUSO4	0.1 - 0.1	ug/L	4	3 - 15	W	98 - 106		
				Average Recovery:			103	Std. Dev.: 3.4	
	PH=2	2 - 2	ug/L	4	0 - 14	D	95 - 109		
				Average Recovery:			100	Std. Dev.: 6.6	
	PH=7	2 - 2	ug/L	4	0 - 21	D	80 - 115		
				Average Recovery:			94	Std. Dev.: 11.3	
	PH=9	2 - 2	ug/L	4	0 - 14	D	98 - 108		
				Average Recovery:			104	Std. Dev.: 4.2	
delta-BHC	PH=2	2 - 2	ug/L	4	0 - 14	D	92 - 105		
				Average Recovery:			97	Std. Dev.: 5.6	

COMPOUND CLASS: *Neutral Chlorinated Extractables* MATRIX: *Drinking/Surface Water* RUN DATE: *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME		RECOVERY	COMMENT	REFERENCE
delta-BHC									
	PH=7	2 - 2	ug/L	4	0 - 21	D	82 - 105		
				Average Recovery:			94	Std. Dev.: 8.5	
	PH=9	2 - 2	ug/L	4	0 - 14	D	65 - 105		
				Average Recovery:			78	Std. Dev.: 18.9	
gamma-BHC									
	CHLOROFORM	0.1 - 0.1	ug/L	4	3 - 15	W	62 - 96		
				Average Recovery:			74	Std. Dev.: 8.4	
	CUSO4	0.1 - 0.1	ug/L	4	3 - 15	W	88 - 92		
				Average Recovery:			91	Std. Dev.: 1.6	
	NONE	-		4	6 - 6	W	100 - 100		
				Average Recovery:			100	Std. Dev.: 0.0	
	PH=2	2 - 2	ug/L	4	0 - 14	D	92 - 108		
				Average Recovery:			99	Std. Dev.: 6.7	
	PH=7	2 - 2	ug/L	4	0 - 21	D	80 - 105		
				Average Recovery:			93	Std. Dev.: 8.3	
	PH=9	2 - 2	ug/L	4	0 - 14	D	95 - 108		
				Average Recovery:			100	Std. Dev.: 5.6	
a-chlordane									
	CHLOROFORM	0.1 - 0.1	ug/L	4	3 - 15	W	78 - 100		
				Average Recovery:			92	Std. Dev.: 7.0	
	CUSO4	0.1 - 0.1.	ug/L	4	3 - 15	W	80 - 90		
				Average Recovery:			85	Std. Dev.: 3.5	
	NONE	-		4	6 - 6	W	100 - 100		
				Average Recovery:			100	Std. Dev.: 0.0	
g-chlordane									
	CHLOROFORM	0.1 - 0.1	ug/L	4	3 - 15	W	77 - 99		
				Average Recovery:			89	Std. Dev.: 5.2	
	CUSO4	0.1 - 0.1	ug/L	4	3 - 15	W	69 - 97		
				Average Recovery:			78	Std. Dev.: 11.4	
p,p'-ddd									

COMPOUND CLASS: *Neutral Chlorinated Extractables* **MATRIX:** *Drinking/Surface Water* **RUN DATE:** *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME	RECOVERY	COMMENT	REFERENCE
p,p'-ddd								
	CHLOROFORM	0.4 - 0.4	ug/L	4	3 - 15 W	80 - 102		
				Average Recovery:		94	Std. Dev.: 5.0	
	CUSO4	0.2 - 0.2	ug/L	4	3 - 15 W	68 - 93		
				Average Recovery:		78	Std. Dev.: 9.9	
p,p'-dde								
	CHLOROFORM	0.2 - 0.2	ug/L	4	3 - 15 W	80 - 102		
				Average Recovery:		92	Std. Dev.: 6.3	
	CUSO4	0.2 - 0.2	ug/L	4	3 - 15 W	59 - 89		
				Average Recovery:		69	Std. Dev.: 11.9	
	NONE	-		4	6 - 6 W	100 - 100		
				Average Recovery:		100	Std. Dev.: 0.0	
o,p'-ddt								
	CHLOROFORM	0.4 - 0.4	ug/L	4	3 - 15 W	80 - 127		
				Average Recovery:		96	Std. Dev.: 9.6	
	CUSO4	0.4 - 0.4	ug/L	4	3 - 15 W	57 - 91		
				Average Recovery:		69	Std. Dev.: 13.7	
	NONE	-		4	6 - 6 W	100 - 100		
				Average Recovery:		100	Std. Dev.: 0.0	
4,4'-ddt								
	CHLOROFORM	0.4 - 0.4	ug/L	4	3 - 15 W	85 - 150		
				Average Recovery:		99	Std. Dev.: 15.2	
	CUSO4	0.4 - 0.4	ug/L	4	3 - 15 W	59 - 95		
				Average Recovery:		75	Std. Dev.: 13.8	
	NONE	-		4	6 - 6 W	100 - 100		
				Average Recovery:		100	Std. Dev.: 0.0	
dieldrin								
	CHLOROFORM	0.2 - 0.2	ug/L	4	3 - 15 W	85 - 974		
				Average Recovery:		133	Std. Dev.: 175.7	
	CUSO4	0.2 - 0.2	ug/L	4	3 - 15 W	81 - 100		
				Average Recovery:		92	Std. Dev.: 6.9	

COMPOUND CLASS: *Neutral Chlorinated Extractables* MATRIX: *Drinking/Surface Water* RUN DATE: *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME	RECOVERY	COMMENT	REFERENCE
dieldrin								
	NONE	-		4	6 - 6 W	100 - 100		
				Average Recovery:		100	Std. Dev.: 0.0	
2,8-dih-mirex								
	CHLOROFORM	0.2 - 0.2	ug/L	4	3 - 15 W	86 - 102		
				Average Recovery:		94	Std. Dev.: 4.2	
	CUSO4	0.2 - 0.2	ug/L	4	3 - 15 W	51 - 79		
				Average Recovery:		62	Std. Dev.: 10.5	
alpha-endosulfan (Endosulfan I								
	CHLOROFORM	0.2 - 0.2	ug/L	4	3 - 15 W	77 - 102		
				Average Recovery:		92	Std. Dev.: 7.3	
	CUSO4	0.2 - 0.2	ug/L	4	3 - 15 W	100 - 100		
				Average Recovery:		100	Std. Dev.: 0.0	
	NONE	-		4	6 - 6 W	100 - 100		
				Average Recovery:		100	Std. Dev.: 0.0	
beta-endosulfan (Endosulfan II								
	CHLOROFORM	0.2 - 0.2	ug/L	4	3 - 15 W	84 - 106		
				Average Recovery:		93	Std. Dev.: 5.7	
	CUSO4	0.2 - 0.2	ug/L	4	3 - 15 W	91 - 102		
				Average Recovery:		94	Std. Dev.: 4.6	
	NONE	-		4	6 - 6 W	100 - 100		
				Average Recovery:		100	Std. Dev.: 0.0	
endrin								
	CHLOROFORM	0.4 - 0.4	ug/L	4	3 - 15 W	46 - 272		
				Average Recovery:		100	Std. Dev.: 48.6	
	CUSO4	0.4 - 0.4	ug/L	4	3 - 15 W	85 - 99		
				Average Recovery:		90	Std. Dev.: 5.3	
heptachlor								
	CHLOROFORM	0.1 - 0.1	ug/L	4	3 - 15 W	60 - 83		
				Average Recovery:		71	Std. Dev.: 5.6	
	CUSO4	0.1 - 0.1	ug/L	4	3 - 15 W	21 - 62		
				Average Recovery:		40	Std. Dev.: 15.2	

COMPOUND CLASS: *Neutral Chlorinated Extractables* **MATRIX:** *Drinking/Surface Water* **RUN DATE:** *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME		RECOVERY	COMMENT	REFERENCE
heptachlor									
	NONE	-		4	6 - 6	W	70 - 70		
				Average Recovery:			70	Std. Dev.: 0.0	
heptachlor epoxide									
	CHLOROFORM	0.1 - 0.1	ug/L	4	3 - 15	W	81 - 112		
				Average Recovery:			91	Std. Dev.: 7.3	
	CUSO4	0.1 - 0.1	ug/L	4	3 - 15	W	84 - 96		
				Average Recovery:			89	Std. Dev.: 4.4	
	NONE	-		4	6 - 6	W	100 - 100		
				Average Recovery:			100	Std. Dev.: 0.0	
hexachlorobenzene									
	CHLOROFORM	0.1 - 0.1	ug/L	4	3 - 15	W	48 - 66		
				Average Recovery:			57	Std. Dev.: 5.0	
	CUSO4	0.1 - 0.1	ug/L	4	3 - 15	W	49 - 82		
				Average Recovery:			63	Std. Dev.: 11.9	
hexachlorobutadiene (HCBD)									
	CHLOROFORM	0.1 - 0.1	ug/L	4	15 - 15	W	59 - 59		
				Average Recovery:			59	Std. Dev.: 0.0	
	PH=2	.2 - .2	ug/L.	4	0 - 14	D	70 - 120		
				Average Recovery:			90	Std. Dev.: 18.5	
	PH=7	.2 - .2	ug/L.	4	0 - 21	D	25 - 110		
				Average Recovery:			68	Std. Dev.: 25.5	
	PH=9	.2 - .2	ug/L	4	0 - 14	D	72 - 115		
				Average Recovery:			97	Std. Dev.: 14.8	
hexachlorocyclopentadiene									
		.2 - .2	ug/L.	4	0 - 0	D	145 - 145		
				Average Recovery:			145	Std. Dev.: 0.0	
	PH=2	.2 - .2	ug/L.	4	0 - 14	D	70 - 168		
				Average Recovery:			114	Std. Dev.: 40.5	
	PH=7	.2 - .2	ug/L.	4	1 - 21	D	47 - 105		
				Average Recovery:			68	Std. Dev.: 22.2	

COMPOUND CLASS: *Neutral Chlorinated Extractables* **MATRIX:** *Drinking/Surface Water* **RUN DATE:** *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME	RECOVERY	COMMENT	REFERENCE
hexachlorocyclopentadiene								
	PH=9	.2 - .2	ug/L.	4	0 - 14 D	108 - 160		
				Average Recovery:		139	Std. Dev.: 22.5	
hexachloroethane								
	PH=2	.2 - .2	ug/L	4	0 - 14 D	80 - 105		
				Average Recovery:		91	Std. Dev.: 10.4	
	PH=7	.2 - .2	ug/L	4	0 - 21 D	40 - 100		
				Average Recovery:		69	Std. Dev.: 19.2	
	PH=9	.2 - .2	ug/L	4	0 - 14 D	85 - 105		
				Average Recovery:		95	Std. Dev.: 8.2	
methoxychlor (DMDT)								
	CHLOROFORM	0.4 - 0.4	ug/L	4	3 - 15 W	82 - 312		
				Average Recovery:		112	Std. Dev.: 53.4	
	CUSO4	0.4 - 0.4	ug/L	4	3 - 15 W	92 - 109		
				Average Recovery:		100	Std. Dev.: 6.4	
	NONE	-		4	6 - 6 W	100 - 100		
				Average Recovery:		100	Std. Dev.: 0.0	
pentachlorobenzene								
	PH=2	.2 - .2	ug/L	4	0 - 14 D	80 - 118		
				Average Recovery:		97	Std. Dev.: 15.9	
	PH=7	.2 - .2	ug/L	4	0 - 21 D	50 - 110		
				Average Recovery:		77	Std. Dev.: 20.2	
	PH=9	.2 - .2	ug/L	4	0 - 14 D	110 - 255		
				Average Recovery:		200	Std. Dev.: 64.2	
1,2,3,4-tetrachlorobenzene								
	PH=2	2 - 2	ug/L	4	0 - 14 D	80 - 110		
				Average Recovery:		92	Std. Dev.: 13.1	
	PH=7	2 - 2	ug/L	4	0 - 21 D	40 - 105		
				Average Recovery:		72	Std. Dev.: 20.9	
	PH=9	2 - 2	ug/L	4	0 - 14 D	85 - 115		
				Average Recovery:		100	Std. Dev.: 12.2	

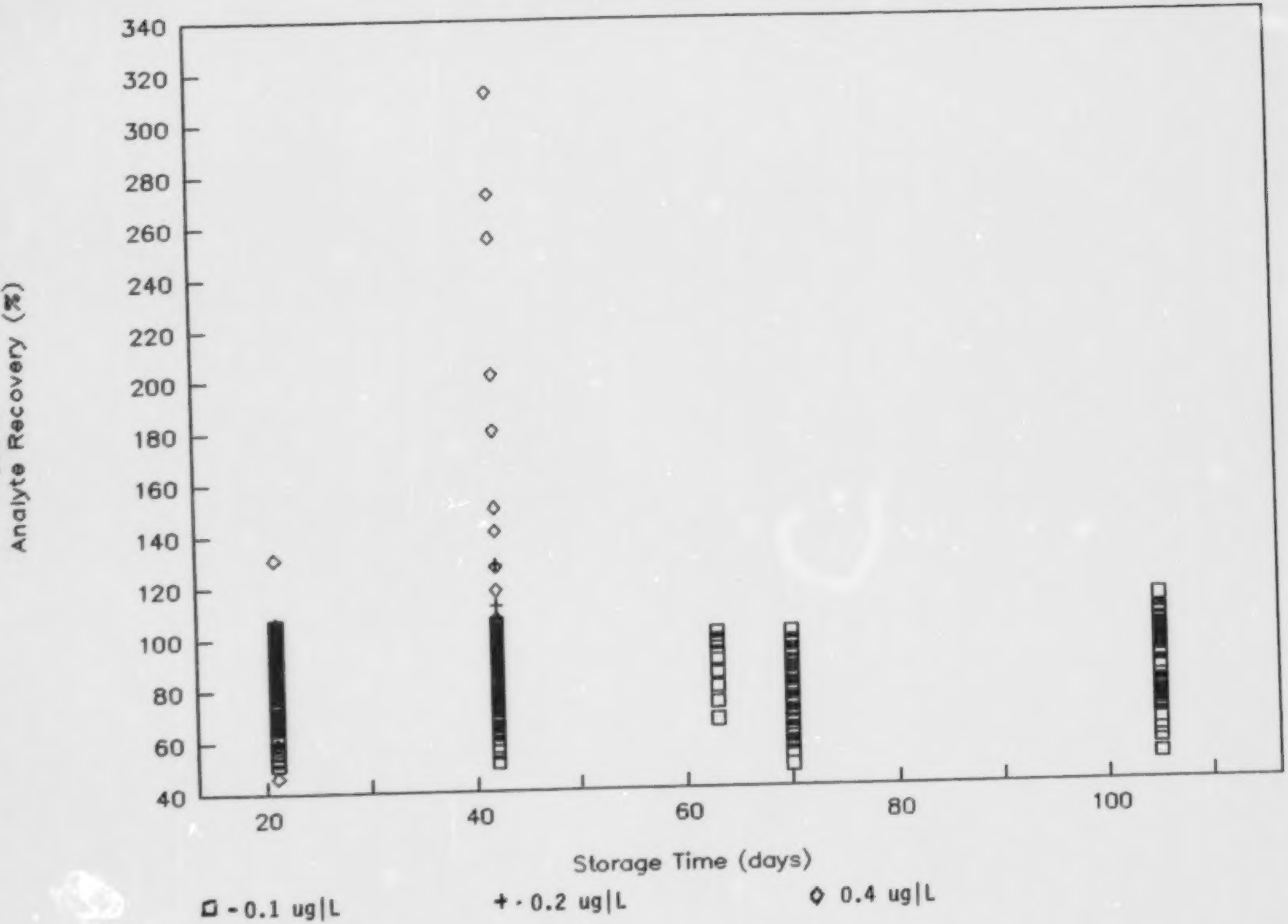
COMPOUND CLASS: *Neutral Chlorinated Extractables* MATRIX: *Drinking/Surface Water* DATE: *12-0*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME	RECOVERY	COMMENT	REFERENCE
1,2,3,5-tetrachlorobenzene								
	PH=2	2 - 2	ug/L	4	0 - 14 D	78 - 115		
				Average Recovery:		93	Std. Dev.: 16.0	
	PH=7	2 - 2	ug/L	4	0 - 21 D	25 - 105		
				Average Recovery:		67	Std. Dev.: 25.6	
	PH=9	2 - 2	ug/L	4	0 - 14 D	90 - 110		
				Average Recovery:		102	Std. Dev.: 8.5	
1,2,4,5-tetrachlorobenzene								
	PH=2	2 - 2	ug/L	4	0 - 14 D	78 - 115		
				Average Recovery:		93	Std. Dev.: 16.0	
	PH=7	2 - 2	ug/L	4	0 - 21 D	25 - 105		
				Average Recovery:		67	Std. Dev.: 25.6	
	PH=9	2 - 2	ug/L	4	0 - 14 D	85 - 115		
				Average Recovery:		100	Std. Dev.: 12.2	
total pcbs								
	NONE	-		4	6 - 6 W	100 - 100		
				Average Recovery:		100	Std. Dev.: 0.0	
1,2,3-trichlorobenzene								
	PH=2	2 - 2	ug/L.	4	0 - 14 D	75 - 113		
				Average Recovery:		93	Std. Dev.: 15.6	
	PH=7	2 - 2	ug/L.	4	0 - 21 D	35 - 100		
				Average Recovery:		68	Std. Dev.: 21.6	
	PH=9	2 - 2	ug/L.	4	0 - 14 D	88 - 110		
				Average Recovery:		98	Std. Dev.: 9.0	
1,2,4-trichlorobenzene								
	PH=2	2 - 2	ug/L.	4	0 - 14 D	25 - 108		
				Average Recovery:		66	Std. Dev.: 33.9	
	PH=7	2 - 2	ug/L.	4	0 - 21 D	15 - 100		
				Average Recovery:		53	Std. Dev.: 31.2	
	PH=9	2 - 2	ug/L.	4	0 - 14 D	22 - 110		
				Average Recovery:		59	Std. Dev.: 37.3	

COMPOUND CLASS: *Neutral Chlorinated Extractables* **MATRIX:** *Drinking/Surface Water* **RUN DATE:** *12-Oct-89*

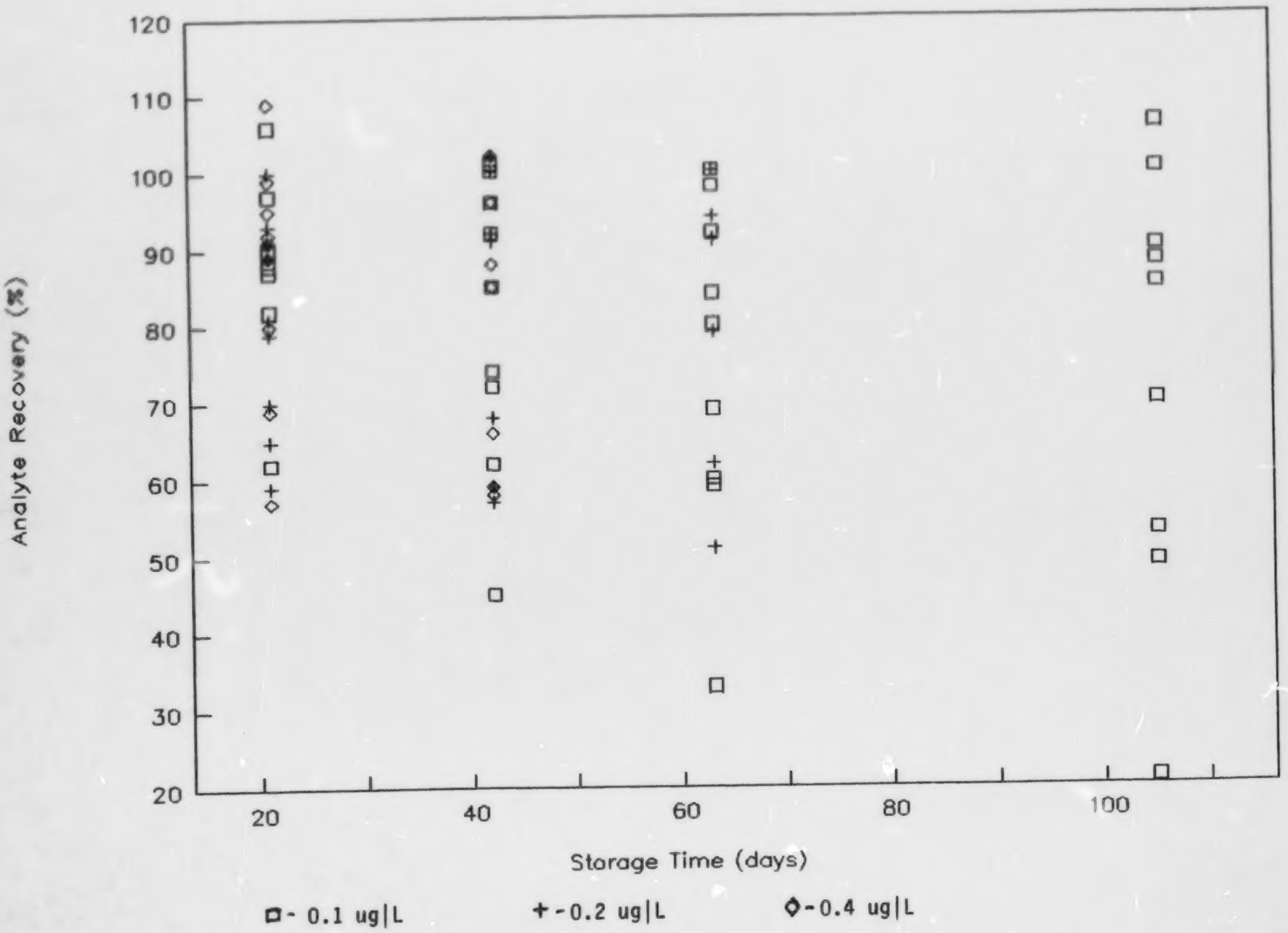
COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME		RECOVERY	COMMENT	REFERENCE
1,3,5-trichlorobenzene									
	PH=2	2 - 2	ug/L	4	0 - 14	D	65 - 112		
				Average Recovery:			86	Std. Dev.: 19.6	
	PH=7	2 - 2	ug/L	4	0 - 21	D	35 - 105		
				Average Recovery:			65	Std. Dev.: 22.4	
	PH=9	2 - 2	ug/L	4	0 - 14	D	75 - 110		
				Average Recovery:			92	Std. Dev.: 14.3	

Figure A-25 Analyte Recovery with Chloroform Preservation for Neutral Chlorinated Extractables in Drinking/Surface Water Matrix



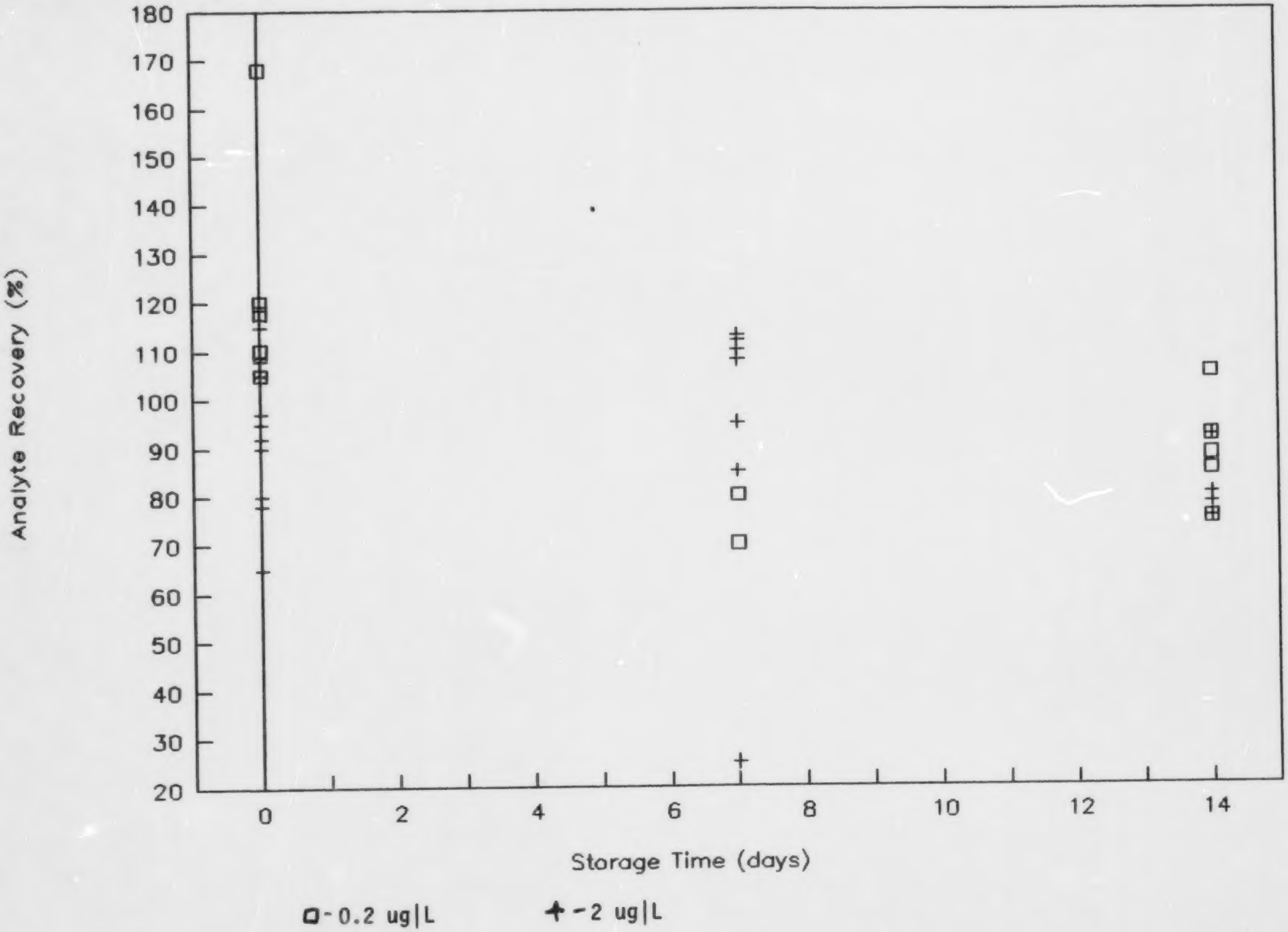
Ref: ASC 216

Figure A-26 Analyte Recovery with Copper Sulphate Preservation For Neutral Chlorinated Extractables in Drinking/Surface Water Matrix



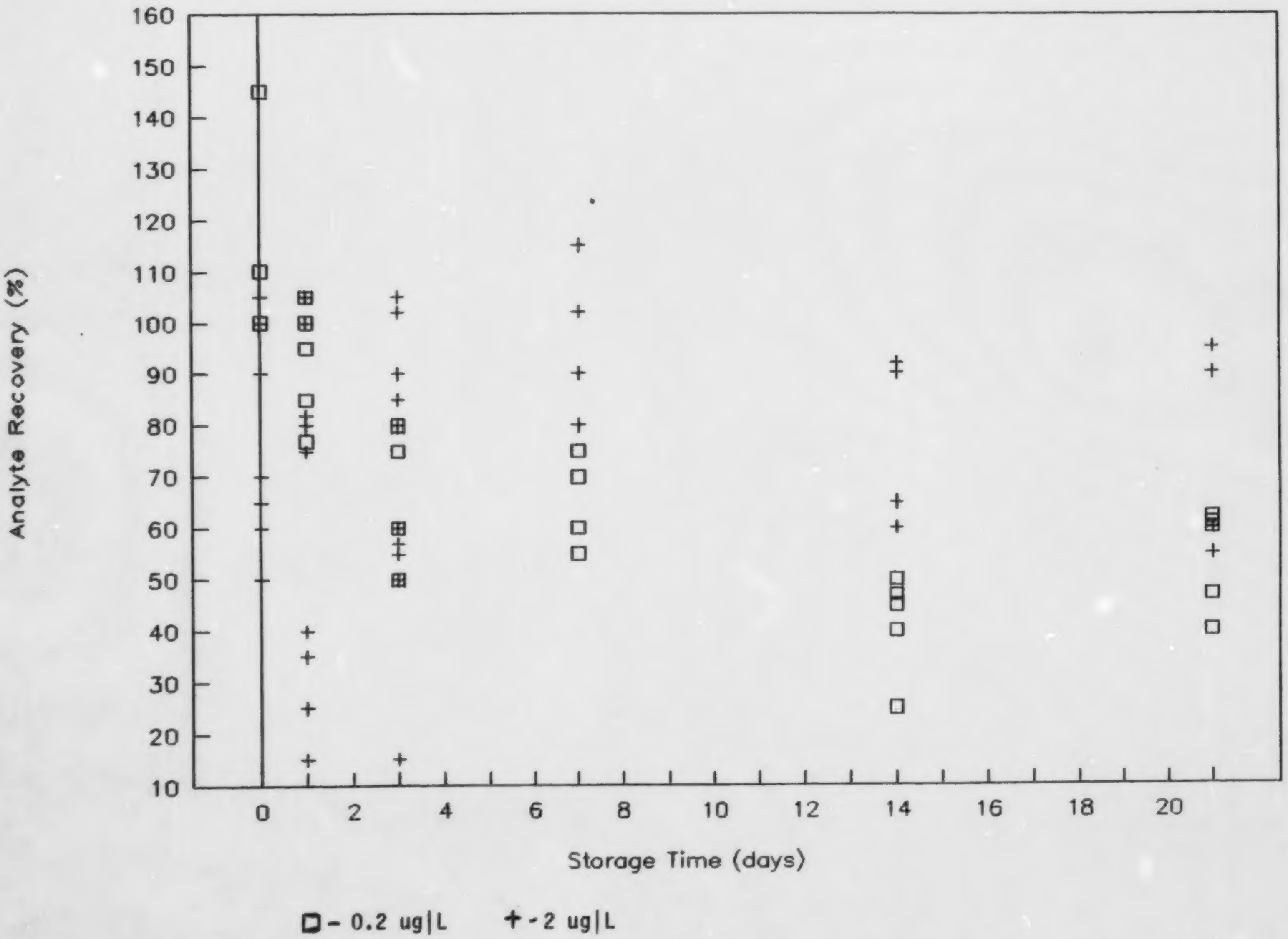
Ref: ASC 216

Figure A-27 Analyte Recovery at pH 2 for Neutral Chlorinated Extractables in Drinking/Surface Water Matrix



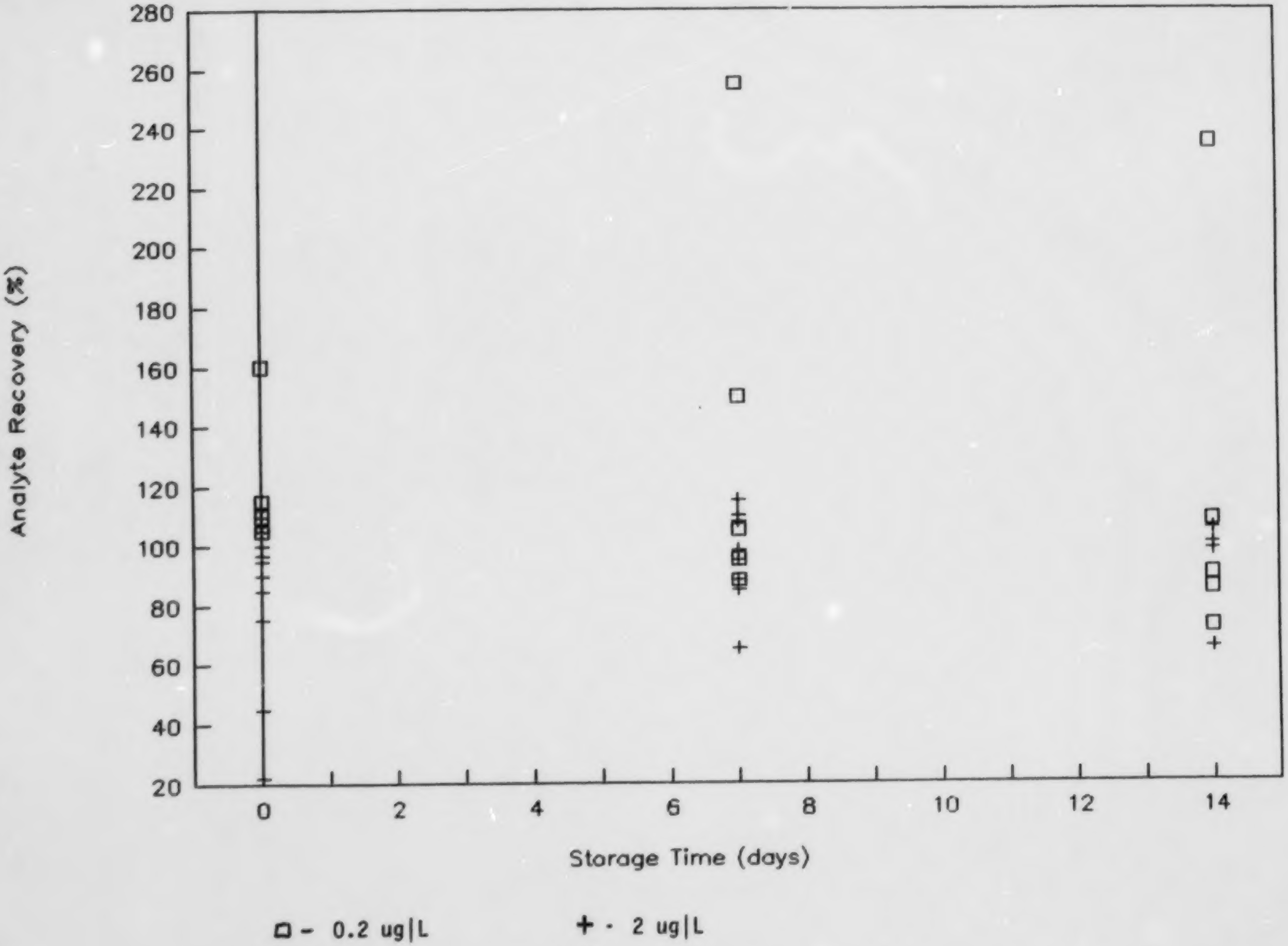
Ref: ASC 302

Figure A-28 Analyte Recovery at pH 7 for Neutral Chlorinated Extractables in Drinking/Surface Water Matrix



Ref: ASC 302

Figure A-29 Analyte Recovery at pH 9 for Neutral Chlorinated Extractables in Drinking/Surface Water Matrix



Matrix: Water Class: Neutral Chlorinated Extracables

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
aldrin	CHLOROFORM	0.1 ug/L	4	3 W	82	L. Ontario water	216
aldrin	CHLOROFORM	0.1 ug/L	4	3 W	61	Saskatchewan water	216
aldrin	CHLOROFORM	0.1 ug/L	4	3 W	105	Corrected for Method Recovery	216
aldrin	CHLOROFORM	0.1 ug/L	4	3 W	67	Quebec Water	216
aldrin	CHLOROFORM	0.1 ug/L	4	3 W	66	British Columbia Water	216
aldrin	CHLOROFORM	0.1 ug/L	4	3 W	67	Lake Ontario Water	216
aldrin	CHLOROFORM	0.1 ug/L	4	3 W	92	Recov Corr. Lake Ontario 4 rep	216
aldrin	CHLOROFORM	0.1 ug/L	4	3 W	74	New Brunswick Water	216
aldrin	CHLOROFORM	0.1 ug/L	4	3 W	100	Recov Corr. Mersey River Water	216
aldrin	CHLOROFORM	0.1 ug/L	4	3 W	86	Recov Corr. Fraser River Water	216
aldrin	CHLOROFORM	0.1 ug/L	4	3 W	91	Recov Corr. E.Proper R.-4 rep	216
aldrin	CHLOROFORM	0.1 ug/L	4	3 W	85	Recov Corr. R. Outausis 4 rep	216
aldrin	CHLOROFORM	0.1 ug/L	4	6 W	78	British Columbia Water	216
aldrin	CHLOROFORM	0.1 ug/L	4	6 W	73	Lake Ontario Water	216
aldrin	CHLOROFORM	0.1 ug/L	4	6 W	100	Recov Corr. R. Outausis 4 rep	216
aldrin	CHLOROFORM	0.1 ug/L	4	6 W	70	New Brunswick Water	216
aldrin	CHLOROFORM	0.1 ug/L	4	6 W	100	Recov Corr. Lake Ontario 4 rep	216
aldrin	CHLOROFORM	0.1 ug/L	4	6 W	70	L. Ontario water	216
aldrin	CHLOROFORM	0.1 ug/L	4	6 W	100	Recov Corr. Mersey River Water	216
aldrin	CHLOROFORM	0.1 ug/L	4	6 W	79	Quebec Water	216
aldrin	CHLOROFORM	0.1 ug/L	4	6 W	100	Recov Corr. Fraser River Water	216
aldrin	CHLOROFORM	0.1 ug/L	4	6 W	90	Corrected for Method Recovery	216
aldrin	CHLOROFORM	0.1 ug/L	4	6 W	77	Saskatchewan water	216
aldrin	CHLOROFORM	0.1 ug/L	4	6 W	100	Recov Corr. E.Proper R.-4 rep	216
aldrin	CHLOROFORM	0.1 ug/L	4	9 W	97	Corrected for Method Recovery	216
aldrin	CHLOROFORM	0.1 ug/L	4	10 W	77	Recov Corr. R. Outausis 4 rep	216
aldrin	CHLOROFORM	0.1 ug/L	4	10 W	100	Recov Corr. Lake Ontario 4 rep	216
aldrin	CHLOROFORM	0.1 ug/L	4	10 W	76	Lake Ontario Water	216
aldrin	CHLOROFORM	0.1 ug/L	4	10 W	100	Recov Corr. Mersey River Water	216
aldrin	CHLOROFORM	0.1 ug/L	4	10 W	73	British Columbia Water	216
aldrin	CHLOROFORM	0.1 ug/L	4	10 W	67	Saskatchewan water	216
aldrin	CHLOROFORM	0.1 ug/L	4	10 W	71	New Brunswick Water	216
aldrin	CHLOROFORM	0.1 ug/L	4	10 W	61	Quebec Water	216
aldrin	CHLOROFORM	0.1 ug/L	4	10 W	95	Recov Corr. Fraser River Water	216
aldrin	CHLOROFORM	0.1 ug/L	4	10 W	100	Recov Corr. E.Proper R.-4 rep	216
aldrin	CHLOROFORM	0.1 ug/L	4	15 W	77	Quebec Water	216
aldrin	CHLOROFORM	0.1 ug/L	4	15 W	97	Recov Corr. Fraser River Water	216
aldrin	CHLOROFORM	0.1 ug/L	4	15 W	100	Recov Corr. Mersey River Water	216
aldrin	CHLOROFORM	0.1 ug/L	4	15 W	73	Saskatchewan water	216
aldrin	CHLOROFORM	0.1 ug/L	4	15 W	75	British Columbia Water	216
aldrin	CHLOROFORM	0.1 ug/L	4	15 W	76	Lake Ontario Water	216
aldrin	CHLOROFORM	0.1 ug/L	4	15 W	83	L. Ontario water	216
aldrin	CHLOROFORM	0.1 ug/L	4	15 W	100	Recov Corr. Lake Ontario 4 rep	216
aldrin	CHLOROFORM	0.1 ug/L	4	15 W	100	Recov Corr. E.Proper R.-4 rep	216
aldrin	CHLOROFORM	0.1 ug/L	4	15 W	100	Recov Corr. R. Outausis 4 rep	216
aldrin	CHLOROFORM	0.1 ug/L	4	15 W	78	New Brunswick Water	216
aldrin	CHLOROFORM	0.1 ug/L	4	15 W	106	Corrected for Method Recovery	216
aldrin	CUSO4	0.1 ug/L	4	3 W	88	Corrected for Method Recovery	216
aldrin	CUSO4	0.1 ug/L	4	6 W	72	Corrected for Method Recovery	216

Matrix: Water Class: Neutral Chlorinated Extracables

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
aldrin	CUSO4	0.1 ug/L	4	9 W	59	Corrected for Method Recovery	216
aldrin	CUSO4	0.1 ug/L	4	15 W	53	Corrected for Method Recovery	216
aldrin	NONE		4	6 W	100	stored in dark	258
alpha-BHC	CHLOROFORM	0.1 ug/L	4	3 W	65	Lake Ontario Water	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	3 W	71	Quebec Water	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	3 W	62	Saskatchewan water	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	3 W	81	Recov. Corr. Fraser R. (avg 3)	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	3 W	92	Recovery Corr. avg. of 3 reps.	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	3 W	100	Recov. Corr. L.Ontario (avg 3)	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	3 W	69	New Brunswick Water	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	3 W	77	L. Ontario water	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	3 W	100	Recov. Corr. R. Outasis(avg 3)	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	3 W	91	Recov. Corr: E.Proper R(avg 3)	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	3 W	100	Recov. Corr. Mersey R. (avg 3)	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	6 W	64	Saskatchewan water	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	6 W	77	Recovery Corr. avg. of 3 reps.	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	6 W	100	Recov. Corr. Fraser R. (avg 3)	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	6 W	100	Recov. Corr. Mersey R. (avg 3)	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	6 W	100	Recov. Corr. Fraser R. (avg 3)	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	6 W	100	Recov. Corr. R. Outasis(avg 3)	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	6 W	65	L. Ontario water	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	6 W	92	Recov. Corr. L.Ontario (avg 3)	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	6 W	67	Lake Ontario Water	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	6 W	74	Quebec Water	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	6 W	65	New Brunswick Water	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	9 W	79	L. Ontario water	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	9 W	94	Recovery Corr. avg. of 3 reps.	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	10 W	61	Lake Ontario Water	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	10 W	81	Recov. Corr. Fraser R. (avg 3)	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	10 W	56	Quebec Water	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	10 W	85	Recov. Corr: E.Proper R(avg 3)	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	10 W	100	Recov. Corr. Mersey R. (avg 3)	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	10 W	57	Saskatchewan water	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	10 W	67	New Brunswick Water	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	10 W	84	Recov. Corr. L.Ontario (avg 3)	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	10 W	79	Recov. Corr. R. Outasis(avg 3)	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	15 W	80	Recovery Corr. avg. of 3 reps.	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	15 W	100	Recov. Corr: E.Proper R(avg 3)	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	15 W	70	Lake Ontario Water	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	15 W	72	New Brunswick Water	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	15 W	100	Recov. Corr. R. Outasis(avg 3)	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	15 W	100	Recov. Corr. L.Ontario (avg 3)	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	15 W	100	Recov. Corr. Mersey R. (avg 3)	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	15 W	68	L. Ontario water	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	15 W	74	Saskatchewan water	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	15 W	94	Recov. Corr. Fraser R. (avg 3)	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	15 W	70	Quebec Water	216
alpha-BHC	CHLOROFORM	0.1 ug/L	4	63 W	94	Recov. Corr: E.Proper R(avg 3)	216
alpha-BHC	CUSO4	0.1 ug/L	4	3 W	88	Recovery Corr. avg. of 3 reps.	216

Matrix: Water Class: Neutral Chlorinated Extracables

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
alpha-BHC	CUSO4	0.1 ug/L	4	6 W	100	Recovery Corr. avg. of 3 reps.	216
alpha-BHC	CUSO4	0.1 ug/L	4	9 W	100	Recovery Corr. avg. of 3 reps.	216
alpha-BHC	CUSO4	0.1 ug/L	4	15 W	100	Recovery Corr. avg. of 3 reps.	216
alpha-BHC	PH=2	2 ug/L	4	0 D	108		302
alpha-BHC	PH=2	2 ug/L	4	7 D	92		302
alpha-BHC	PH=2	2 ug/L	4	14 D	95		302
alpha-BHC	PH=7	2 ug/L	4	0 D	105		302
alpha-BHC	PH=7	2 ug/L	4	1 D	102		302
alpha-BHC	PH=7	2 ug/L	4	3 D	90		302
alpha-BHC	PH=7	2 ug/L	4	7 D	90		302
alpha-BHC	PH=7	2 ug/L	4	14 D	75		302
alpha-BHC	PH=7	2 ug/L	4	21 D	90		302
alpha-BHC	PH=9	2 ug/L	4	0 D	105		302
alpha-BHC	PH=9	2 ug/L	4	7 D	100		302
alpha-BHC	PH=9	2 ug/L	4	14 D	95		302
beta-BHC	CHLOROFORM	0.1 ug/L	4	3 W	76	Saskatchewan water	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	3 W	80	Quebec Water	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	3 W	85	New Brunswick Water	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	3 W	75	Lake Ontario Water	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	3 W	100	Rec.Corr: L.Ontario (Avg 3)	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	3 W	80	British Columbia Water	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	3 W	80	Rec.Corr: L. Ontario (Avg 4)	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	3 W	101	L. Ontario water	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	3 W	100	Rec.Corr: Fraser River(Avg 3)	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	3 W	90	Rec.Corr: E.Proper R. (Avg 4)	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	3 W	91	Rec.Corr: R.Outausis (Avg 4)	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	3 W	100	Rec.Corr: Mersey River (Avg 4)	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	6 W	88	Rec.Corr: L.Ontario (Avg 3)	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	6 W	100	Rec.Corr: Mersey River (Avg 4)	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	6 W	100	Rec.Corr: Fraser River(Avg 3)	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	6 W	100	Rec.Corr: R.Outausis (Avg 4)	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	6 W	93	Saskatchewan water	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	6 W	105	Quebec Water	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	6 W	78	L. Ontario water	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	6 W	100	Rec.Corr: E.Proper R. (Avg 4)	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	6 W	95	Rec.Corr: L. Ontario (Avg 4)	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	6 W	88	Lake Ontario Water	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	6 W	98	British Columbia Water	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	6 W	100	New Brunswick Water	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	9 W	89	L. Ontario water	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	9 W	100	Rec.Corr: L.Ontario (Avg 3)	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	10 W	100	Rec.Corr: Fraser River(Avg 4)	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	10 W	100	Rec.Corr: Mersey River (Avg 4)	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	10 W	88	Rec.Corr: L. Ontario (Avg 4)	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	10 W	93	Rec.Corr: E.Proper R. (Avg 4)	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	10 W	100	Rec.Corr: Mersey River (Avg 4)	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	10 W	95	Rec.Corr: R.Outausis (Avg 4)	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	10 W	84	Quebec Water	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	10 W	82	Lake Ontario Water	216

Matrix: Water Class: Neutral Chlorinated Extracables

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
beta-BHC	CHLOROFORM	0.1 ug/L	4	10 W	78	Saskatchewan water	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	10 W	84	British Columbia Water	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	10 W	88	New Brunswick Water	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	15 W	98	British Columbia Water	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	15 W	100	Rec.Corr: R.Outausis (Avg 4)	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	15 W	100	Rec.Corr: E.Proper R. (Avg 4)	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	15 W	104	New Brunswick Water	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	15 W	94	Lake Ontario Water	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	15 W	100	Rec.Corr: Fraser River(Avg 4)	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	15 W	100	Rec.Corr: L.Ontario (Avg 3)	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	15 W	93	Quebec Water	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	15 W	97	Saskatchewan water	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	15 .	105	L. Ontario water	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	15 W	100	Rec.Corr: L. Ontario (Avg 4)	216
beta-BHC	CHLOROFORM	0.1 ug/L	4	15 W	100	Rec.Corr: Mersey River (Avg 4)	216
beta-BHC	CUSO4	0.1 ug/L	4	3 W	105	Rec.Corr: L.Ontario (Avg 3)	216
beta-BHC	CUSO4	0.1 ug/L	4	6 W	101	Rec.Corr: L.Ontario (Avg 3)	216
beta-BHC	CUSO4	0.1 ug/L	4	9 W	98	Rec.Corr: L.Ontario (Avg 3)	216
beta-BHC	CUSO4	0.1 ug/L	4	15 W	106	Rec.Corr: L.Ontario (Avg 3)	216
beta-BHC	PH=2	2 ug/L	4	0 D	109		302
beta-BHC	PH=2	2 ug/L	4	7 D	95		302
beta-BHC	PH=2	2 ug/L	4	14 D	95		302
beta-BHC	PH=7	2 ug/L	4	0 D	100		302
beta-BHC	PH=7	2 ug/L	4	1 D	115		302
beta-BHC	PH=7	2 ug/L	4	3 D	95		302
beta-BHC	PH=7	2 ug/L	4	7 D	90		302
beta-BHC	PH=7	2 ug/L	4	14 D	80		302
beta-BHC	PH=7	2 ug/L	4	21 D	85		302
beta-BHC	PH=9	2 ug/L	4	0 D	108		302
beta-BHC	PH=9	2 ug/L	4	7 D	105		302
beta-BHC	PH=9	2 ug/L	4	14 D	98		302
delta-BHC	PH=2	2 ug/L	4	0 D	105		302
delta-BHC	PH=2	2 ug/L	4	7 D	92		302
delta-BHC	PH=2	2 ug/L	4	14 D	95		302
delta-BHC	PH=7	2 ug/L	4	0 D	105		302
delta-BHC	PH=7	2 ug/L	4	1 D	105		302
delta-BHC	PH=7	2 ug/L	4	3 D	90		302
delta-BHC	PH=7	2 ug/L	4	7 D	90		302
delta-BHC	PH=7	2 ug/L	4	14 D	82		302
delta-BHC	PH=7	2 ug/L	4	21 D	90		302
delta-BHC	PH=9	2 ug/L	4	0 D	105		302
delta-BHC	PH=9	2 ug/L	4	7 D	65		302
delta-BHC	PH=9	2 ug/L	4	14 D	65		302
gamma-BHC	CHLOROFORM	0.1 ug/L	4	3 W	73	Quebec Water	216
gamma-BHC	CHLOROFORM	0.1 ug/L	4	3 W	67	British Columbia Water	216
gamma-BHC	CHLOROFORM	0.1 ug/L	4	3 W	63	British Columbia Water	216
gamma-BHC	CHLOROFORM	0.1 ug/L	4	3 W	91	L. Ontario water	216
gamma-BHC	CHLOROFORM	0.1 ug/L	4	3 W	62	Lake Ontario Water	216
gamma-BHC	CHLOROFORM	0.1 ug/L	4	3 W	65	Saskatchewan water	216

Matrix: Water Class: Neutral Chlorinated Extracables

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
gamma-BHC	CHLOROFORM	0.1 ug/L	4	3 W	66	New Brunswick Water	216
gamma-BHC	CHLOROFORM	0.1 ug/L	4	6 W	78	Lake Ontario Water	216
gamma-BHC	CHLOROFORM	0.1 ug/L	4	6 W	76	Saskatchewan water	216
gamma-BHC	CHLOROFORM	0.1 ug/L	4	6 W	81	Quebec Water	216
gamma-BHC	CHLOROFORM	0.1 ug/L	4	6 W	80	British Columbia Water	216
gamma-BHC	CHLOROFORM	0.1 ug/L	4	6 W	75	New Brunswick Water	216
gamma-BHC	CHLOROFORM	0.1 ug/L	4	6 W	70	L. Ontario water	216
gamma-BHC	CHLOROFORM	0.1 ug/L	4	6 W	83	British Columbia Water	216
gamma-BHC	CHLOROFORM	0.1 ug/L	4	9 W	96	L. Ontario water	216
gamma-BHC	CHLOROFORM	0.1 ug/L	4	10 W	69	Lake Ontario Water	216
gamma-BHC	CHLOROFORM	0.1 ug/L	4	10 W	67	Saskatchewan water	216
gamma-BHC	CHLOROFORM	0.1 ug/L	4	10 W	72	British Columbia Water	216
gamma-BHC	CHLOROFORM	0.1 ug/L	4	10 W	64	British Columbia Water	216
gamma-BHC	CHLOROFORM	0.1 ug/L	4	10 W	67	Quebec Water	216
gamma-BHC	CHLOROFORM	0.1 ug/L	4	10 W	72	New Brunswick Water	216
gamma-BHC	CHLOROFORM	0.1 ug/L	4	15 W	78	Lake Ontario Water	216
gamma-BHC	CHLOROFORM	0.1 ug/L	4	15 W	73	British Columbia Water	216
gamma-BHC	CHLOROFORM	0.1 ug/L	4	15 W	78	Saskatchewan water	216
gamma-BHC	CHLOROFORM	0.1 ug/L	4	15 W	71	British Columbia Water	216
gamma-BHC	CHLOROFORM	0.1 ug/L	4	15 W	90	L. Ontario water	216
gamma-BHC	CHLOROFORM	0.1 ug/L	4	15 W	76	Quebec Water	216
gamma-BHC	CHLOROFORM	0.1 ug/L	4	15 W	74	New Brunswick Water	216
gamma-BHC	CUSO4	0.1 ug/L	4	3 W	90	L. Ontario water	216
gamma-BHC	CUSO4	0.1 ug/L	4	6 W	92	L. Ontario water	216
gamma-BHC	CUSO4	0.1 ug/L	4	9 W	92	L. Ontario water	216
gamma-BHC	CUSO4	0.1 ug/L	4	9 W	92	L. Ontario water	216
gamma-BHC	CUSO4	0.1 ug/L	4	15 W	88	L. Ontario water	216
gamma-BHC	NONE		4	6 W	100	stored in dark	258
gamma-BHC	PH=2	2 ug/L	4	0 D	108		302
gamma-BHC	PH=2	2 ug/L	4	7 D	92		302
gamma-BHC	PH=2	2 ug/L	4	14 D	97		302
gamma-BHC	PH=7	2 ug/L	4	0 D	105		302
gamma-BHC	PH=7	2 ug/L	4	1 D	102		302
gamma-BHC	PH=7	2 ug/L	4	3 D	92		302
gamma-BHC	PH=7	2 ug/L	4	7 D	90		302
gamma-BHC	PH=7	2 ug/L	4	14 D	80		302
gamma-BHC	PH=7	2 ug/L	4	21 D	90		302
gamma-BHC	PH=9	2 ug/L	4	0 D	108		302
gamma-BHC	PH=9	2 ug/L	4	7 D	98		302
gamma-BHC	PH=9	2 ug/L	4	14 D	95		302
a-chlordane	CHLOROFORM	0.1 ug/L	4	3 W	79	British Columbia Water	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	3 W	96	L. Ontario water	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	3 W	100	Rec.Corr: R.Outasis (Avg 4)	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	3 W	84	Rec.Corr: Mersey R. (Avg 4)	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	3 W	100	Rec.Corr: (Avg 3 Replicates)	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	3 W	91	Rec.Corr: E.Proper R.(Avg 4)	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	3 W	88	Rec.Corr: L. Ontario (Avg 4)	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	3 W	90	Rec.Corr: Fraser R. (Avg 4)	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	3 W	84	New Brunswick Water	216

Matrix: Water Class: Neutral Chlorinated Extracables

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
a-chlordane	CHLOROFORM	0.1 ug/L	4	3 W	82	Quebec Water	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	3 W	81	Saskatchewan water	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	3 W	84	Lake Ontario Water	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	6 W	90	New Brunswick Water	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	6 W	87	Saskatchewan water	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	6 W	83	Lake Ontario Water	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	6 W	97	Quebec Water	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	6 W	93	Rec.Corr: (Avg 3 Replicates)	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	6 W	100	Rec.Corr: Fraser R. (Avg 4)	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	6 W	78	L. Ontario water	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	6 W	100	Rec.Corr: Mersey R. (Avg 4)	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	6 W	94	British Columbia Water	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	6 W	87	Rec.Corr: L. Ontario (Avg 4)	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	6 W	100	Rec.Corr: R.Outasis (Avg 4)	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	6 W	100	Rec.Corr: E.Proper R.(Avg 4)	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	9 W	100	Rec.Corr: R.Outasis (Avg 4)	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	9 W	89	L. Ontario water	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	9 W	100	Rec.Corr: (Avg 3 Replicates)	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	10 W	100	Rec.Corr: Fraser R. (Avg 4)	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	10 W	100	Rec.Corr: Mersey R. (Avg 4)	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	10 W	87	Rec.Corr: L. Ontario (Avg 4)	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	10 W	93	Rec.Corr: E.Proper R.(Avg 4)	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	10 W	87	British Columbia Water	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	10 W	83	Saskatchewan water	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	10 W	90	New Brunswick Water	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	10 W	84	Quebec Water	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	10 W	83	Lake Ontario Water	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	15 W	92	Saskatchewan water	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	15 W	97	New Brunswick Water	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	15 W	92	Lake Ontario Water	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	15 W	90	Quebec Water	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	15 W	100	Rec.Corr: E.Proper R.(Avg 4)	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	15 W	100	Rec.Corr: Fraser R. (Avg 4)	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	15 W	100	Rec.Corr: L. Ontario (Avg 4)	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	15 W	90	British Columbia Water	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	15 W	100	Rec.Corr: Mersey R. (Avg 4)	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	15 W	100	Rec.Corr: (Avg 3 Replicates)	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	15 W	100	Rec.Corr: R.Outasis (Avg 4)	216
a-chlordane	CHLOROFORM	0.1 ug/L	4	15 W	97	L. Ontario water	216
a-chlordane	CUSO4	0.1 ug/L	4	6 W	85	Rec.Corr: (Avg 3 Replicates)	216
a-chlordane	CUSO4	0.1 ug/L	4	9 W	80	Rec.Corr: (Avg 3 Replicates)	216
a-chlordane	CUSO4	0.1 ug/L	4	15 W	85	Rec.Corr: (Avg 3 Replicates)	216
a-chlordane	CUSO4	0.1. ug/L	4	3 W	90	Rec.Corr: (Avg 3 Replicates)	216
a-chlordane	NONE		4	6 W	100	stored in dark	258
g-chlordane	CHLOROFORM	0.1 ug/L	4	3 W	85	Quebec Water	216
g-chlordane	CHLOROFORM	0.1 ug/L	4	3 W	96	L. Ontario water	216
g-chlordane	CHLOROFORM	0.1 ug/L	4	3 W	83	British Columbia Water	216
g-chlordane	CHLOROFORM	0.1 ug/L	4	3 W	88	Lake Ontario Water	216
g-chlordane	CHLOROFORM	0.1 ug/L	4	3 W	85	Saskatchewan water	216

Matrix: Water

Class: Neutral Chlorinated Extracables

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
g-chlordane	CHLOROFORM	0.1 ug/L	4	3 W	87	New Brunswick Water	216
g-chlordane	CHLOROFORM	0.1 ug/L	4	6 W	77	L. Ontario water	216
g-chlordane	CHLOROFORM	0.1 ug/L	4	6 W	86	Saskatchewan water	216
g-chlordane	CHLOROFORM	0.1 ug/L	4	6 W	84	Lake Ontario Water	216
g-chlordane	CHLOROFORM	0.1 ug/L	4	6 W	89	British Columbia Water	216
g-chlordane	CHLOROFORM	0.1 ug/L	4	6 W	96	Quebec Water	216
g-chlordane	CHLOROFORM	0.1 ug/L	4	6 W	90	New Brunswick Water	216
g-chlordane	CHLOROFORM	0.1 ug/L	4	9 W	85	L. Ontario water	216
g-chlordane	CHLOROFORM	0.1 ug/L	4	10 W	88	British Columbia Water	216
g-chlordane	CHLOROFORM	0.1 ug/L	4	10 W	92	New Brunswick Water	216
g-chlordane	CHLOROFORM	0.1 ug/L	4	10 W	86	Saskatchewan water	216
g-chlordane	CHLOROFORM	0.1 ug/L	4	10 W	86	Quebec Water	216
g-chlordane	CHLOROFORM	0.1 ug/L	4	10 W	86	Lake Ontario Water	216
g-chlordane	CHLOROFORM	0.1 ug/L	4	15 W	93	British Columbia Water	216
g-chlordane	CHLOROFORM	0.1 ug/L	4	15 W	94	Lake Ontario Water	216
g-chlordane	CHLOROFORM	0.1 ug/L	4	15 W	96	L. Ontario water	216
g-chlordane	CHLOROFORM	0.1 ug/L	4	15 W	99	New Brunswick Water	216
g-chlordane	CHLOROFORM	0.1 ug/L	4	15 W	95	Saskatchewan water	216
g-chlordane	CHLOROFORM	0.1 ug/L	4	15 W	92	Quebec Water	216
g-chlordane	CUSO4	0.1 ug/L	4	3 W	97	L. Ontario water	216
g-chlordane	CUSO4	0.1 ug/L	4	6 W	74	L. Ontario water	216
g-chlordane	CUSO4	0.1 ug/L	4	9 W	69	L. Ontario water	216
g-chlordane	CUSO4	0.1 ug/L	4	15 W	70	L. Ontario water	216
p,p'-ddd	CHLOROFORM	0.4 ug/L	4	3 W	92	Saskatchewan water	216
p,p'-ddd	CHLOROFORM	0.4 ug/L	4	3 W	96	New Brunswick Water	216
p,p'-ddd	CHLOROFORM	0.4 ug/L	4	3 W	96	L. Ontario water	216
p,p'-ddd	CHLOROFORM	0.4 ug/L	4	3 W	91	British Columbia Water	216
p,p'-ddd	CHLOROFORM	0.4 ug/L	4	3 W	91	Quebec Water	216
p,p'-ddd	CHLOROFORM	0.4 ug/L	4	3 W	90	Lake Ontario Water	216
p,p'-ddd	CHLOROFORM	0.4 ug/L	4	6 W	101	Quebec Water	216
p,p'-ddd	CHLOROFORM	0.4 ug/L	4	6 W	93	Lake Ontario Water	216
p,p'-ddd	CHLOROFORM	0.4 ug/L	4	6 W	80	L. Ontario water	216
p,p'-ddd	CHLOROFORM	0.4 ug/L	4	6 W	102	British Columbia Water	216
p,p'-ddd	CHLOROFORM	0.4 ug/L	4	6 W	89	Saskatchewan water	216
p,p'-ddd	CHLOROFORM	0.4 ug/L	4	6 W	92	New Brunswick Water	216
p,p'-ddd	CHLOROFORM	0.4 ug/L	4	9 W	94	L. Ontario water	216
p,p'-ddd	CHLOROFORM	0.4 ug/L	4	10 W	91	British Columbia Water	216
p,p'-ddd	CHLOROFORM	0.4 ug/L	4	10 W	98	New Brunswick Water	216
p,p'-ddd	CHLOROFORM	0.4 ug/L	4	10 W	89	Saskatchewan water	216
p,p'-ddd	CHLOROFORM	0.4 ug/L	4	10 W	92	Quebec Water	216
p,p'-ddd	CHLOROFORM	0.4 ug/L	4	10 W	92	Lake Ontario Water	216
p,p'-ddd	CHLOROFORM	0.4 ug/L	4	15 W	101	New Brunswick Water	216
p,p'-ddd	CHLOROFORM	0.4 ug/L	4	15 W	99	British Columbia Water	216
p,p'-ddd	CHLOROFORM	0.4 ug/L	4	15 W	95	L. Ontario water	216
p,p'-ddd	CHLOROFORM	0.4 ug/L	4	15 W	101	Lake Ontario Water	216
p,p'-ddd	CHLOROFORM	0.4 ug/L	4	15 W	98	Saskatchewan water	216
p,p'-ddd	CHLOROFORM	0.4 ug/L	4	15 W	97	Quebec Water	216
p,p'-ddd	CUSO4	0.2 ug/L	4	3 W	93	L. Ontario water	216
p,p'-ddd	CUSO4	0.2 ug/L	4	6 W	70	L. Ontario water	216

Matrix: Water Class: Neutral Chlorinated Extracables

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
p,p'-ddd	CUSO4	0.2 ug/L	4	9 W	68	L. Ontario water	216
p,p'-ddd	CUSO4	0.2 ug/L	4	15 W	79	L. Ontario water	216
p,p'-dde	CHLOROFORM	0.2 ug/L	4	3 W	87	Quebec Water	216
p,p'-dde	CHLOROFORM	0.2 ug/L	4	3 W	83	British Columbia Water	216
p,p'-dde	CHLOROFORM	0.2 ug/L	4	3 W	80	Saskatchewan water	216
p,p'-dde	CHLOROFORM	0.2 ug/L	4	3 W	94	L. Ontario water	216
p,p'-dde	CHLOROFORM	0.2 ug/L	4	3 W	98	Lake Ontario Water	216
p,p'-dde	CHLOROFORM	0.2 ug/L	4	3 W	87	New Brunswick Water	216
p,p'-dde	CHLOROFORM	0.2 ug/L	4	6 W	99	British Columbia Water	216
p,p'-dde	CHLOROFORM	0.2 ug/L	4	6 W	82	L. Ontario water	216
p,p'-dde	CHLOROFORM	0.2 ug/L	4	6 W	98	Quebec Water	216
p,p'-dde	CHLOROFORM	0.2 ug/L	4	6 W	99	Lake Ontario Water	216
p,p'-dde	CHLOROFORM	0.2 ug/L	4	6 W	92	New Brunswick Water	216
p,p'-dde	CHLOROFORM	0.2 ug/L	4	9 W	89	L. Ontario water	216
p,p'-dde	CHLOROFORM	0.2 ug/L	4	10 W	88	British Columbia Water	216
p,p'-dde	CHLOROFORM	0.2 ug/L	4	10 W	85	Saskatchewan water	216
p,p'-dde	CHLOROFORM	0.2 ug/L	4	10 W	94	New Brunswick Water	216
p,p'-dde	CHLOROFORM	0.2 ug/L	4	10 W	88	Quebec Water	216
p,p'-dde	CHLOROFORM	0.2 ug/L	4	10 W	87	Lake Ontario Water	216
p,p'-dde	CHLOROFORM	0.2 ug/L	4	15 W	102	New Brunswick Water	216
p,p'-dde	CHLOROFORM	0.2 ug/L	4	15 W	98	L. Ontario water	216
p,p'-dde	CHLOROFORM	0.2 ug/L	4	15 W	100	Lake Ontario Water	216
p,p'-dde	CHLOROFORM	0.2 ug/L	4	15 W	92	British Columbia Water	216
p,p'-dde	CHLOROFORM	0.2 ug/L	4	15 W	97	Saskatchewan water	216
p,p'-dde	CHLOROFORM	0.2 ug/L	4	15 W	95	Quebec Water	216
p,p'-dde	CUSO4	0.2 ug/L	4	3 W	89	L. Ontario water	216
p,p'-dde	CUSO4	0.2 ug/L	4	6 W	65	L. Ontario water	216
p,p'-dde	CUSO4	0.2 ug/L	4	9 W	59	L. Ontario water	216
p,p'-dde	CUSO4	0.2 ug/L	4	15 W	62	L. Ontario water	216
p,p'-dde	NONE		4	6 W	100	stored in dark	258
o,p'-ddt	CHLOROFORM	0.4 ug/L	4	3 W	95	Saskatchewan water	216
o,p'-ddt	CHLOROFORM	0.4 ug/L	4	3 W	80	British Columbia Water	216
o,p'-ddt	CHLOROFORM	0.4 ug/L	4	3 W	99	L. Ontario water	216
o,p'-ddt	CHLOROFORM	0.4 ug/L	4	3 W	93	Lake Ontario Water	216
o,p'-ddt	CHLOROFORM	0.4 ug/L	4	3 W	89	Quebec Water	216
o,p'-ddt	CHLOROFORM	0.4 ug/L	4	3 W	85	New Brunswick Water	216
o,p'-ddt	CHLOROFORM	0.4 ug/L	4	6 W	89	L. Ontario water	216
o,p'-ddt	CHLOROFORM	0.4 ug/L	4	6 W	101	Quebec Water	216
o,p'-ddt	CHLOROFORM	0.4 ug/L	4	6 W	94	Saskatchewan water	216
o,p'-ddt	CHLOROFORM	0.4 ug/L	4	6 W	97	British Columbia Water	216
o,p'-ddt	CHLOROFORM	0.4 ug/L	4	6 W	100	Lake Ontario Water	216
o,p'-ddt	CHLOROFORM	0.4 ug/L	4	6 W	94	New Brunswick Water	216
o,p'-ddt	CHLOROFORM	0.4 ug/L	4	9 W	92	L. Ontario water	216
o,p'-ddt	CHLOROFORM	0.4 ug/L	4	10 W	90	British Columbia Water	216
o,p'-ddt	CHLOROFORM	0.4 ug/L	4	10 W	96	New Brunswick Water	216
o,p'-ddt	CHLOROFORM	0.4 ug/L	4	10 W	87	Saskatchewan water	216
o,p'-ddt	CHLOROFORM	0.4 ug/L	4	10 W	94	Quebec Water	216
o,p'-ddt	CHLOROFORM	0.4 ug/L	4	10 W	91	Lake Ontario Water	216
o,p'-ddt	CHLOROFORM	0.4 ug/L	4	15 W	127	New Brunswick Water	216

Matrix: Water

Class: Neutral Chlorinated Extracables

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
o,p'-ddt	CHLOROFORM	0.4 ug/L	4	15 W	100	Lake Ontario Water	216
o,p'-ddt	CHLOROFORM	0.4 ug/L	4	15 W	118	British Columbia Water	216
o,p'-ddt	CHLOROFORM	0.4 ug/L	4	15 W	97	L. Ontario water	216
o,p'-ddt	CHLOROFORM	0.4 ug/L	4	15 W	96	Saskatchewan water	216
o,p'-ddt	CHLOROFORM	0.4 ug/L	4	15 W	103	Quebec Water	216
o,p'-ddt	CUSO4	0.4 ug/L	4	3 W	91	L. Ontario water	216
o,p'-ddt	CUSO4	0.4 ug/L	4	6 W	69	L. Ontario water	216
o,p'-ddt	CUSO4	0.4 ug/L	4	9 W	57	L. Ontario water	216
o,p'-ddt	CUSO4	0.4 ug/L	4	15 W	58	L. Ontario water	216
o,p'-ddt	NONE		4	6 W	100	stored in dark	258
4,4'-ddt	CHLOROFORM	0.4 ug/L	4	3 W	85	Saskatchewan water	216
4,4'-ddt	CHLOROFORM	0.4 ug/L	4	3 W	85	Lake Ontario Water	216
4,4'-ddt	CHLOROFORM	0.4 ug/L	4	3 W	91	Quebec Water	216
4,4'-ddt	CHLOROFORM	0.4 ug/L	4	3 W	99	L. Ontario water	216
4,4'-ddt	CHLOROFORM	0.4 ug/L	4	3 W	92	New Brunswick Water	216
4,4'-ddt	CHLOROFORM	0.4 ug/L	4	3 W	87	British Columbia Water	216
4,4'-ddt	CHLOROFORM	0.4 ug/L	4	6 W	93	L. Ontario water	216
4,4'-ddt	CHLOROFORM	0.4 ug/L	4	6 W	100	New Brunswick Water	216
4,4'-ddt	CHLOROFORM	0.4 ug/L	4	6 W	90	Lake Ontario Water	216
4,4'-ddt	CHLOROFORM	0.4 ug/L	4	6 W	94	British Columbia Water	216
4,4'-ddt	CHLOROFORM	0.4 ug/L	4	6 W	92	Saskatchewan water	216
4,4'-ddt	CHLOROFORM	0.4 ug/L	4	6 W	106	Quebec Water	216
4,4'-ddt	CHLOROFORM	0.4 ug/L	4	9 W	97	L. Ontario water	216
4,4'-ddt	CHLOROFORM	0.4 ug/L	4	10 W	89	British Columbia Water	216
4,4'-ddt	CHLOROFORM	0.4 ug/L	4	10 W	97	New Brunswick Water	216
4,4'-ddt	CHLOROFORM	0.4 ug/L	4	10 W	92	Lake Ontario Water	216
4,4'-ddt	CHLOROFORM	0.4 ug/L	4	10 W	95	Saskatchewan water	216
4,4'-ddt	CHLOROFORM	0.4 ug/L	4	10 W	98	Quebec Water	216
4,4'-ddt	CHLOROFORM	0.4 ug/L	4	15 W	97	L. Ontario water	216
4,4'-ddt	CHLOROFORM	0.4 ug/L	4	15 W	97	Lake Ontario Water	216
4,4'-ddt	CHLOROFORM	0.4 ug/L	4	15 W	150	New Brunswick Water	216
4,4'-ddt	CHLOROFORM	0.4 ug/L	4	15 W	92	Saskatchewan water	216
4,4'-ddt	CHLOROFORM	0.4 ug/L	4	15 W	141	British Columbia Water	216
4,4'-ddt	CHLOROFORM	0.4 ug/L	4	15 W	106	Quebec Water	216
4,4'-ddt	CUSO4	0.4 ug/L	4	3 W	95	L. Ontario water	216
4,4'-ddt	CUSO4	0.4 ug/L	4	6 W	80	L. Ontario water	216
4,4'-ddt	CUSO4	0.4 ug/L	4	9 W	59	L. Ontario water	216
4,4'-ddt	CUSO4	0.4 ug/L	4	15 W	66	L. Ontario water	216
4,4'-ddt	NONE		4	6 W	100	stored in dark	258
dieldrin	CHLOROFORM	0.2 ug/L	4	3 W	90	Lake Ontario Water	216
dieldrin	CHLOROFORM	0.2 ug/L	4	3 W	89	Saskatchewan water	216
dieldrin	CHLOROFORM	0.2 ug/L	4	3 W	94	L. Ontario water	216
dieldrin	CHLOROFORM	0.2 ug/L	4	3 W	91	Quebec Water	216
dieldrin	CHLOROFORM	0.2 ug/L	4	3 W	85	British Columbia Water	216
dieldrin	CHLOROFORM	0.2 ug/L	4	3 W	92	New Brunswick Water	216
dieldrin	CHLOROFORM	0.2 ug/L	4	6 W	98	Quebec Water	216
dieldrin	CHLOROFORM	0.2 ug/L	4	6 W	96	Lake Ontario Water	216
dieldrin	CHLOROFORM	0.2 ug/L	4	6 W	93	British Columbia Water	216
dieldrin	CHLOROFORM	0.2 ug/L	4	6 W	88	Saskatchewan water	216

Matrix: Water Class: Neutral Chlorinated Extracables

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
dieldrin	CHLOROFORM	0.2 ug/L	4	6 W	91	New Brunswick Water	216
dieldrin	CHLOROFORM	0.2 ug/L	4	6 W	104	L. Ontario water	216
dieldrin	CHLOROFORM	0.2 ug/L	4	9 W	104	L. Ontario water	216
dieldrin	CHLOROFORM	0.2 ug/L	4	10 W	99	British Columbia Water	216
dieldrin	CHLOROFORM	0.2 ug/L	4	10 W	92	New Brunswick Water	216
dieldrin	CHLOROFORM	0.2 ug/L	4	10 W	92	Lake Ontario Water	216
dieldrin	CHLOROFORM	0.2 ug/L	4	10 W	89	Saskatchewan water	216
dieldrin	CHLOROFORM	0.2 ug/L	4	10 W	94	Quebec Water	216
dieldrin	CHLOROFORM	0.2 ug/L	4	15 W	974	L. Ontario water	216
dieldrin	CHLOROFORM	0.2 ug/L	4	15 W	128	British Columbia Water	216
dieldrin	CHLOROFORM	0.2 ug/L	4	15 W	102	Quebec Water	216
dieldrin	CHLOROFORM	0.2 ug/L	4	15 W	112	New Brunswick Water	216
dieldrin	CHLOROFORM	0.2 ug/L	4	15 W	92	Lake Ontario Water	216
dieldrin	CHLOROFORM	0.2 ug/L	4	15 W	91	Saskatchewan water	216
dieldrin	CUSO4	0.2 ug/L	4	3 W	81	L. Ontario water	216
dieldrin	CUSO4	0.2 ug/L	4	6 W	100	L. Ontario water	216
dieldrin	CUSO4	0.2 ug/L	4	9 W	91	L. Ontario water	216
dieldrin	CUSO4	0.2 ug/L	4	15 W	94	L. Ontario water	216
dieldrin	NONE		4	6 W	100	stored in dark	258
2,8-dih-mirex	CHLOROFORM	0.2 ug/L	4	3 W	96	L. Ontario water	216
2,8-dih-mirex	CHLOROFORM	0.2 ug/L	4	3 W	99	British Columbia Water	216
2,8-dih-mirex	CHLOROFORM	0.2 ug/L	4	3 W	90	New Brunswick Water	216
2,8-dih-mirex	CHLOROFORM	0.2 ug/L	4	3 W	86	Saskatchewan water	216
2,8-dih-mirex	CHLOROFORM	0.2 ug/L	4	3 W	92	Lake Ontario Water	216
2,8-dih-mirex	CHLOROFORM	0.2 ug/L	4	3 W	89	Quebec Water	216
2,8-dih-mirex	CHLOROFORM	0.2 ug/L	4	6 W	91	Saskatchewan water	216
2,8-dih-mirex	CHLOROFORM	0.2 ug/L	4	6 W	86	L. Ontario water	216
2,8-dih-mirex	CHLOROFORM	0.2 ug/L	4	6 W	95	British Columbia Water	216
2,8-dih-mirex	CHLOROFORM	0.2 ug/L	4	6 W	95	Lake Ontario Water	216
2,8-dih-mirex	CHLOROFORM	0.2 ug/L	4	6 W	99	Quebec Water	216
2,8-dih-mirex	CHLOROFORM	0.2 ug/L	4	6 W	91	New Brunswick Water	216
2,8-dih-mirex	CHLOROFORM	0.2 ug/L	4	9 W	92	L. Ontario water	216
2,8-dih-mirex	CHLOROFORM	0.2 ug/L	4	10 W	92	Quebec Water	216
2,8-dih-mirex	CHLOROFORM	0.2 ug/L	4	10 W	98	New Brunswick Water	216
2,8-dih-mirex	CHLOROFORM	0.2 ug/L	4	10 W	91	Saskatchewan water	216
2,8-dih-mirex	CHLOROFORM	0.2 ug/L	4	10 W	90	British Columbia Water	216
2,8-dih-mirex	CHLOROFORM	0.2 ug/L	4	10 W	95	Lake Ontario Water	216
2,8-dih-mirex	CHLOROFORM	0.2 ug/L	4	15 W	102	New Brunswick Water	216
2,8-dih-mirex	CHLOROFORM	0.2 ug/L	4	15 W	98	British Columbia Water	216
2,8-dih-mirex	CHLOROFORM	0.2 ug/L	4	15 W	98	L. Ontario water	216
2,8-dih-mirex	CHLOROFORM	0.2 ug/L	4	15 W	98	Lake Ontario Water	216
2,8-dih-mirex	CHLOROFORM	0.2 ug/L	4	15 W	94	Saskatchewan water	216
2,8-dih-mirex	CHLOROFORM	0.2 ug/L	4	15 W	97	Quebec Water	216
2,8-dih-mirex	CUSO4	0.2 ug/L	4	3 W	79	L. Ontario water	216
2,8-dih-mirex	CUSO4	0.2 ug/L	4	6 W	59	L. Ontario water	216
2,8-dih-mirex	CUSO4	0.2 ug/L	4	9 W	57	L. Ontario water	216
2,8-dih-mirex	CUSO4	0.2 ug/L	4	15 W	51	L. Ontario water	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	3 W	89	L. Ontario water	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	3 W	90	Rec.Corr: Fraser R. (Avg 4)	216

Matrix: Water

Class: Neutral Chlorinated Extracables

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	3 W	100	Rec.Corr: L. Ontario (Avg 3)	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	3 W	94	Rec.Corr: E.Proper R.(Avg 4)	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	3 W	92	Rec.Corr: R.Outasis (Avg 4)	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	3 W	100	Rec.Corr: Mersey R. (Avg 4)	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	3 W	87	New Brunswick Water	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	3 W	100	Rec.Corr: L. Ontario (Avg 4)	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	3 W	80	British Columbia Water	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	3 W	85	Quebec Water	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	3 W	83	Lake Ontario Water	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	3 W	83	Saskatchewan water	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	6 W	79	Lake Ontario Water	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	6 W	94	Quebec Water	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	6 W	81	Saskatchewan water	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	6 W	100	Rec.Corr: Fraser R. (Avg 4)	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	6 W	100	Rec.Corr: L. Ontario (Avg 3)	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	6 W	89	New Brunswick Water	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	6 W	86	Rec.Corr: L. Ontario (Avg 4)	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	6 W	100	Rec.Corr: Mersey R. (Avg 4)	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	6 W	92	Rec.Corr: E.Proper R.(Avg 4)	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	6 W	90	British Columbia Water	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	6 W	98	L. Ontario water	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	6 W	100	Rec.Corr: R.Outasis (Avg 4)	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	6 W	93	Rec.Corr: R.Outasis (Avg 4)	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	6 W	100	Rec.Corr: R.Outasis (Avg 4)	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	9 W	98	L. Ontario water	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	9 W	100	Rec.Corr: L. Ontario (Avg 3)	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	10 W	100	Rec.Corr: Mersey R. (Avg 4)	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	10 W	100	Rec.Corr: Fraser R. (Avg 4)	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	10 W	91	Rec.Corr: E.Proper R.(Avg 4)	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	10 W	92	Rec.Corr: L. Ontario (Avg 4)	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	10 W	85	New Brunswick Water	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	10 W	93	British Columbia Water	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	10 W	86	Quebec Water	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	10 W	80	Saskatchewan water	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	10 W	85	Lake Ontario Water	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	15 W	80	Lake Ontario Water	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	15 W	98	New Brunswick Water	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	15 W	98	Quebec Water	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	15 W	77	Saskatchewan water	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	15 W	100	Rec.Corr: Fraser R. (Avg 4)	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	15 W	100	Rec.Corr: L. Ontario (Avg 3)	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	15 W	87	Rec.Corr: E.Proper R.(Avg 4)	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	15 W	100	Rec.Corr: Mersey R. (Avg 4)	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	15 W	87	Rec.Corr: L. Ontario (Avg 4)	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	15 W	89	L. Ontario water	216
alpha-endosulfan (Endosulfan I	CHLOROFORM	0.2 ug/L	4	15 W	102	British Columbia Water	216
alpha-endosulfan (Endosulfan I	CUSO4	0.2 ug/L	4	3 W	100	Rec.Corr: Reagent Wat. (Avg 4)	216
alpha-endosulfan (Endosulfan I	CUSO4	0.2 ug/L	4	6 W	100	Rec.Corr: Reagent Wat. (Avg 4)	216
alpha-endosulfan (Endosulfan I	CUSO4	0.2 ug/L	4	9 W	100	Rec.Corr: Reagent Wat. (Avg 4)	216

Matrix: Water
Class: Neutral Chlorinated Extracables

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
alpha-endosulfan (Endosulfan I	CUSO4	0.2 ug/L	4	15 W	100	Rec.Corr: Reagent Wat. (Avg 4)	216
alpha-endosulfan (Endosulfan I	NONE		4	6 W	100	stored in dark	258
beta-endosulfan (Endosulfan II	CHLOROFORM	0.2 ug/L	4	3 W	89	Saskatchewan water	216
beta-endosulfan (Endosulfan II	CHLOROFORM	0.2 ug/L	4	3 W	85	British Columbia Water	216
beta-endosulfan (Endosulfan II	CHLOROFORM	0.2 ug/L	4	3 W	99	Quebec Water	216
beta-endosulfan (Endosulfan II	CHLOROFORM	0.2 ug/L	4	3 W	90	L. Ontario water	216
beta-endosulfan (Endosulfan II	CHLOROFORM	0.2 ug/L	4	3 W	94	Lake Ontario Water	216
beta-endosulfan (Endosulfan II	CHLOROFORM	0.2 ug/L	4	3 W	90	New Brunswick Water	216
beta-endosulfan (Endosulfan II	CHLOROFORM	0.2 ug/L	4	6 W	106	Quebec Water	216
beta-endosulfan (Endosulfan II	CHLOROFORM	0.2 ug/L	4	6 W	96	British Columbia Water	216
beta-endosulfan (Endosulfan II	CHLOROFORM	0.2 ug/L	4	6 W	89	Lake Ontario Water	216
beta-endosulfan (Endosulfan II	CHLOROFORM	0.2 ug/L	4	6 W	101	L. Ontario water	216
beta-endosulfan (Endosulfan II	CHLOROFORM	0.2 ug/L	4	6 W	89	New Brunswick Water	216
beta-endosulfan (Endosulfan II	CHLOROFORM	0.2 ug/L	4	9 W	104	L. Ontario water	216
beta-endosulfan (Endosulfan II	CHLOROFORM	0.2 ug/L	4	10 W	98	British Columbia Water	216
beta-endosulfan (Endosulfan II	CHLOROFORM	0.2 ug/L	4	10 W	93	Quebec Water	216
beta-endosulfan (Endosulfan II	CHLOROFORM	0.2 ug/L	4	10 W	97	New Brunswick Water	216
beta-endosulfan (Endosulfan II	CHLOROFORM	0.2 ug/L	4	10 W	94	Saskatchewan water	216
beta-endosulfan (Endosulfan II	CHLOROFORM	0.2 ug/L	4	10 W	90	Lake Ontario Water	216
beta-endosulfan (Endosulfan II	CHLOROFORM	0.2 ug/L	4	15 W	99	New Brunswick Water	216
beta-endosulfan (Endosulfan II	CHLOROFORM	0.2 ug/L	4	15 W	95	British Columbia Water	216
beta-endosulfan (Endosulfan II	CHLOROFORM	0.2 ug/L	4	15 W	88	Lake Ontario Water	216
beta-endosulfan (Endosulfan II	CHLOROFORM	0.2 ug/L	4	15 W	87	L. Ontario water	216
beta-endosulfan (Endosulfan II	CHLOROFORM	0.2 ug/L	4	15 W	93	Quebec Water	216
beta-endosulfan (Endosulfan II	CHLOROFORM	0.2 ug/L	4	15 W	84	Saskatchewan water	216
beta-endosulfan (Endosulfan II	CUSO4	0.2 ug/L	4	3 W	91	L. Ontario water	216
beta-endosulfan (Endosulfan II	CUSO4	0.2 ug/L	4	6 W	102	L. Ontario water	216
beta-endosulfan (Endosulfan II	CUSO4	0.2 ug/L	4	9 W	92	L. Ontario water	216
beta-endosulfan (Endosulfan II	CUSO4	0.2 ug/L	4	15 W	91	L. Ontario water	216
beta-endosulfan (Endosulfan II	NONE		4	6 W	100	stored in dark	258
endrin	CHLOROFORM	0.4 ug/L	4	3 W	89	L. Ontario water	216
endrin	CHLOROFORM	0.4 ug/L	4	3 W	74	Lake Ontario Water	216
endrin	CHLOROFORM	0.4 ug/L	4	3 W	66	Quebec Water	216
endrin	CHLOROFORM	0.4 ug/L	4	3 W	59	New Brunswick Water	216
endrin	CHLOROFORM	0.4 ug/L	4	3 W	68	Saskatchewan water	216
endrin	CHLOROFORM	0.4 ug/L	4	3 W	46	British Columbia Water	216
endrin	CHLOROFORM	0.4 ug/L	4	6 W	101	L. Ontario water	216
endrin	CHLOROFORM	0.4 ug/L	4	6 W	80	Lake Ontario Water	216
endrin	CHLOROFORM	0.4 ug/L	4	6 W	96	Quebec Water	216
endrin	CHLOROFORM	0.4 ug/L	4	6 W	81	British Columbia Water	216
endrin	CHLOROFORM	0.4 ug/L	4	6 W	82	Saskatchewan water	216
endrin	CHLOROFORM	0.4 ug/L	4	6 W	97	New Brunswick Water	216
endrin	CHLOROFORM	0.4 ug/L	4	9 W	98	L. Ontario water	216
endrin	CHLOROFORM	0.4 ug/L	4	10 W	85	British Columbia Water	216
endrin	CHLOROFORM	0.4 ug/L	4	10 W	78	Saskatchewan water	216
endrin	CHLOROFORM	0.4 ug/L	4	10 W	99	Quebec Water	216
endrin	CHLOROFORM	0.4 ug/L	4	10 W	78	New Brunswick Water	216
endrin	CHLOROFORM	0.4 ug/L	4	10 W	85	Lake Ontario Water	216
endrin	CHLOROFORM	0.4 ug/L	4	15 W	100	L. Ontario water	216

Matrix: Water Class: Neutral Chlorinated Extracables

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
endrin	CHLOROFORM	0.4 ug/L	4	15 W	90	Saskatchewan water	216
endrin	CHLOROFORM	0.4 ug/L	4	15 W	90	Lake Ontario Water	216
endrin	CHLOROFORM	0.4 ug/L	4	15 W	272	British Columbia Water	216
endrin	CHLOROFORM	0.4 ug/L	4	15 W	202	New Brunswick Water	216
endrin	CHLOROFORM	0.4 ug/L	4	15 W	180	Quebec Water	216
endrin	CUSO4	0.4 ug/L	4	3 W	99	L. Ontario water	216
endrin	CUSO4	0.4 ug/L	4	6 W	89	L. Ontario water	216
endrin	CUSO4	0.4 ug/L	4	9 W	88	L. Ontario water	216
endrin	CUSO4	0.4 ug/L	4	15 W	85	L. Ontario water	216
heptachlor	CHLOROFORM	0.1 ug/L	4	3 W	78	L. Ontario water	216
heptachlor	CHLOROFORM	0.1 ug/L	4	3 W	70	Saskatchewan water	216
heptachlor	CHLOROFORM	0.1 ug/L	4	3 W	69	Quebec Water	216
heptachlor	CHLOROFORM	0.1 ug/L	4	3 W	67	New Brunswick Water	216
heptachlor	CHLOROFORM	0.1 ug/L	4	3 W	69	Lake Ontario Water	216
heptachlor	CHLOROFORM	0.1 ug/L	4	3 W	63	British Columbia Water	216
heptachlor	CHLOROFORM	0.1 ug/L	4	6 W	70	Saskatchewan water	216
heptachlor	CHLOROFORM	0.1 ug/L	4	6 W	70	Lake Ontario Water	216
heptachlor	CHLOROFORM	0.1 ug/L	4	6 W	70	New Brunswick Water	216
heptachlor	CHLOROFORM	0.1 ug/L	4	6 W	76	British Columbia Water	216
heptachlor	CHLOROFORM	0.1 ug/L	4	6 W	72	L. Ontario water	216
heptachlor	CHLOROFORM	0.1 ug/L	4	9 W	73	L. Ontario water	216
heptachlor	CHLOROFORM	0.1 ug/L	4	10 W	66	British Columbia Water	216
heptachlor	CHLOROFORM	0.1 ug/L	4	10 W	67	New Brunswick Water	216
heptachlor	CHLOROFORM	0.1 ug/L	4	10 W	65	Lake Ontario Water	216
heptachlor	CHLOROFORM	0.1 ug/L	4	10 W	62	Saskatchewan water	216
heptachlor	CHLOROFORM	0.1 ug/L	4	10 W	60	Quebec Water	216
heptachlor	CHLOROFORM	0.1 ug/L	4	15 W	77	L. Ontario water	216
heptachlor	CHLOROFORM	0.1 ug/L	4	15 W	80	New Brunswick Water	216
heptachlor	CHLOROFORM	0.1 ug/L	4	15 W	75	Quebec Water	216
heptachlor	CHLOROFORM	0.1 ug/L	4	15 W	71	Saskatchewan water	216
heptachlor	CHLOROFORM	0.1 ug/L	4	15 W	83	British Columbia Water	216
heptachlor	CHLOROFORM	0.1 ug/L	4	15 W	73	Lake Ontario Water	216
heptachlor	CUSO4	0.1 ug/L	4	3 W	62	L. Ontario water	216
heptachlor	CUSO4	0.1 ug/L	4	6 W	45	L. Ontario water	216
heptachlor	CUSO4	0.1 ug/L	4	9 W	33	L. Ontario water	216
heptachlor	CUSO4	0.1 ug/L	4	15 W	21	L. Ontario water	216
heptachlor	NONE		4	6 W	70	stored in dark	258
heptachlor epoxide	CHLOROFORM	0.1 ug/L	4	3 W	89	New Brunswick Water	216
heptachlor epoxide	CHLOROFORM	0.1 ug/L	4	3 W	98	L. Ontario water	216
heptachlor epoxide	CHLOROFORM	0.1 ug/L	4	3 W	87	Quebec Water	216
heptachlor epoxide	CHLOROFORM	0.1 ug/L	4	3 W	83	British Columbia Water	216
heptachlor epoxide	CHLOROFORM	0.1 ug/L	4	3 W	94	Lake Ontario Water	216
heptachlor epoxide	CHLOROFORM	0.1 ug/L	4	3 W	86	Saskatchewan water	216
heptachlor epoxide	CHLOROFORM	0.1 ug/L	4	6 W	84	Saskatchewan water	216
heptachlor epoxide	CHLOROFORM	0.1 ug/L	4	6 W	93	L. Ontario water	216
heptachlor epoxide	CHLOROFORM	0.1 ug/L	4	6 W	94	Quebec Water	216
heptachlor epoxide	CHLOROFORM	0.1 ug/L	4	6 W	89	New Brunswick Water	216
heptachlor epoxide	CHLOROFORM	0.1 ug/L	4	6 W	93	British Columbia Water	216
heptachlor epoxide	CHLOROFORM	0.1 ug/L	4	6 W	83	Lake Ontario Water	216

Matrix: Water Class: Neutral Chlorinated Extracables

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
heptachlor epoxide	CHLOROFORM	0.1 ug/L	4	9 W	97	L. Ontario water	216
heptachlor epoxide	CHLOROFORM	0.1 ug/L	4	10 W	96	British Columbia Water	216
heptachlor epoxide	CHLOROFORM	0.1 ug/L	4	10 W	85	New Brunswick Water	216
heptachlor epoxide	CHLOROFORM	0.1 ug/L	4	10 W	81	Lake Ontario Water	216
heptachlor epoxide	CHLOROFORM	0.1 ug/L	4	10 W	86	Quebec Water	216
heptachlor epoxide	CHLOROFORM	0.1 ug/L	4	10 W	82	Saskatchewan water	216
heptachlor epoxide	CHLOROFORM	0.1 ug/L	4	15 W	102	Quebec Water	216
heptachlor epoxide	CHLOROFORM	0.1 ug/L	4	15 W	88	Saskatchewan water	216
heptachlor epoxide	CHLOROFORM	0.1 ug/L	4	15 W	95	L. Ontario water	216
heptachlor epoxide	CHLOROFORM	0.1 ug/L	4	15 W	112	British Columbia Water	216
heptachlor epoxide	CHLOROFORM	0.1 ug/L	4	15 W	89	Lake Ontario Water	216
heptachlor epoxide	CHLOROFORM	0.1 ug/L	4	15 W	100	New Brunswick Water	216
heptachlor epoxide	CUSO4	0.1 ug/L	4	3 W	87	L. Ontario water	216
heptachlor epoxide	CUSO4	0.1 ug/L	4	6 W	96	L. Ontario water	216
heptachlor epoxide	CUSO4	0.1 ug/L	4	9 W	84	L. Ontario water	216
heptachlor epoxide	CUSO4	0.1 ug/L	4	15 W	90	L. Ontario water	216
heptachlor epoxide	NONE		4	6 W	100	stored in dark	258
hexachlorobenzene	CHLOROFORM	0.1 ug/L	4	3 W	56	Quebec Water	216
hexachlorobenzene	CHLOROFORM	0.1 ug/L	4	3 W	53	Saskatchewan water	216
hexachlorobenzene	CHLOROFORM	0.1 ug/L	4	3 W	61	L. Ontario water	216
hexachlorobenzene	CHLOROFORM	0.1 ug/L	4	3 W	56	British Columbia Water	216
hexachlorobenzene	CHLOROFORM	0.1 ug/L	4	3 W	51	Lake Ontario Water	216
hexachlorobenzene	CHLOROFORM	0.1 ug/L	4	3 W	54	New Brunswick Water	216
hexachlorobenzene	CHLOROFORM	0.1 ug/L	4	6 W	63	Quebec Water	216
hexachlorobenzene	CHLOROFORM	0.1 ug/L	4	6 W	57	Saskatchewan water	216
hexachlorobenzene	CHLOROFORM	0.1 ug/L	4	6 W	62	L. Ontario water	216
hexachlorobenzene	CHLOROFORM	0.1 ug/L	4	6 W	66	British Columbia Water	216
hexachlorobenzene	CHLOROFORM	0.1 ug/L	4	6 W	55	Lake Ontario Water	216
hexachlorobenzene	CHLOROFORM	0.1 ug/L	4	6 W	51	New Brunswick Water	216
hexachlorobenzene	CHLOROFORM	0.1 ug/L	4	9 W	66	L. Ontario water	216
hexachlorobenzene	CHLOROFORM	0.1 ug/L	4	10 W	57	British Columbia Water	216
hexachlorobenzene	CHLOROFORM	0.1 ug/L	4	10 W	59	New Brunswick Water	216
hexachlorobenzene	CHLOROFORM	0.1 ug/L	4	10 W	53	Saskatchewan water	216
hexachlorobenzene	CHLOROFORM	0.1 ug/L	4	10 W	53	Lake Ontario Water	216
hexachlorobenzene	CHLOROFORM	0.1 ug/L	4	10 W	48	Quebec Water	216
hexachlorobenzene	CHLOROFORM	0.1 ug/L	4	15 W	50	L. Ontario water	216
hexachlorobenzene	CHLOROFORM	0.1 ug/L	4	15 W	56	Lake Ontario Water	216
hexachlorobenzene	CHLOROFORM	0.1 ug/L	4	15 W	64	British Columbia Water	216
hexachlorobenzene	CHLOROFORM	0.1 ug/L	4	15 W	59	New Brunswick Water	216
hexachlorobenzene	CHLOROFORM	0.1 ug/L	4	15 W	59	Saskatchewan water	216
hexachlorobenzene	CUSO4	0.1 ug/L	4	3 W	82	L. Ontario water	216
hexachlorobenzene	CUSO4	0.1 ug/L	4	6 W	62	L. Ontario water	216
hexachlorobenzene	CUSO4	0.1 ug/L	4	9 W	60	L. Ontario water	216
hexachlorobenzene	CUSO4	0.1 ug/L	4	15 W	49	L. Ontario water	216
hexachlorobutadiene (HCBD)	CHLOROFORM	0.1 ug/L	4	15 W	59	Quebec Water	216
hexachlorobutadiene (HCBD)	PH=2	0.2 ug/L	4	0 D	110		302
hexachlorobutadiene (HCBD)	PH=2	0.2 ug/L.	4	0 D	120		302
hexachlorobutadiene (HCBD)	PH=2	0.2 ug/L.	4	7 D	80		302
hexachlorobutadiene (HCBD)	PH=2	0.2 ug/L	4	7 D	70		302

Matrix: Water Class: Neutral Chlorinated Extracables

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
hexachlorobutadiene (HCBD)	PH=2	0.2 ug/L	4	14 D	75		302
hexachlorobutadiene (HCBD)	PH=2	0.2 ug/L.	4	14 D	85		302
hexachlorobutadiene (HCBD)	PH=7	0.2 ug/L.	4	0 D	110		302
hexachlorobutadiene (HCBD)	PH=7	0.2 ug/L	4	0 D	100		302
hexachlorobutadiene (HCBD)	PH=7	0.2 ug/L.	4	1 D	100		302
hexachlorobutadiene (HCBD)	PH=7	0.2 ug/L	4	1 D	77		302
hexachlorobutadiene (HCBD)	PH=7	0.2 ug/L	4	3 D	50		302
hexachlorobutadiene (HCBD)	PH=7	0.2 ug/L.	4	3 D	80		302
hexachlorobutadiene (HCBD)	PH=7	0.2 ug/L	4	7 D	55		302
hexachlorobutadiene (HCBD)	PH=7	0.2 ug/L.	4	7 D	75		302
hexachlorobutadiene (HCBD)	PH=7	0.2 ug/L	4	14 D	25		302
hexachlorobutadiene (HCBD)	PH=7	0.2 ug/L.	4	14 D	45		302
hexachlorobutadiene (HCBD)	PH=7	0.2 ug/L	4	21 D	40		302
hexachlorobutadiene (HCBD)	PH=7	0.2 ug/L.	4	21 D	62		302
hexachlorobutadiene (HCBD)	PH=9	0.2 ug/L	4	0 D	110		302
hexachlorobutadiene (HCBD)	PH=9	0.2 ug/L.	4	0 D	115		302
hexachlorobutadiene (HCBD)	PH=9	0.2 ug/L	4	7 D	88		302
hexachlorobutadiene (HCBD)	PH=9	0.2 ug/L.	4	7 D	105		302
hexachlorobutadiene (HCBD)	PH=9	0.2 ug/L.	4	14 D	90		302
hexachlorobutadiene (HCBD)	PH=9	0.2 ug/L	4	14 D	72		302
hexachlorocyclopentadiene		0.2 ug/L.	4	0 D	145		302
hexachlorocyclopentadiene	PH=2	0.2 ug/L.	4	0 D	168		302
hexachlorocyclopentadiene	PH=2	0.2 ug/L.	4	7 D	70		302
hexachlorocyclopentadiene	PH=2	0.2 ug/L.	4	14 D	105		302
hexachlorocyclopentadiene	PH=7	0.2 ug/L.	4	1 D	105		302
hexachlorocyclopentadiene	PH=7	0.2 ug/L.	4	3 D	80		302
hexachlorocyclopentadiene	PH=7	0.2 ug/L.	4	7 D	60		302
hexachlorocyclopentadiene	PH=7	0.2 ug/L.	4	14 D	47		302
hexachlorocyclopentadiene	PH=7	0.2 ug/L.	4	21 D	47		302
hexachlorocyclopentadiene	PH=9	0.2 ug/L.	4	0 D	160		302
hexachlorocyclopentadiene	PH=9	0.2 ug/L.	4	7 D	150		302
hexachlorocyclopentadiene	PH=9	0.2 ug/L.	4	14 D	108		302
hexachloroethane	PH=2	0.2 ug/L	4	0 D	105		302
hexachloroethane	PH=2	0.2 ug/L	4	7 D	80		302
hexachloroethane	PH=2	0.2 ug/L	4	14 D	88		302
hexachloroethane	PH=7	0.2 ug/L	4	0 D	100		302
hexachloroethane	PH=7	0.2 ug/L	4	1 D	85		302
hexachloroethane	PH=7	0.2 ug/L	4	3 D	60		302
hexachloroethane	PH=7	0.2 ug/L	4	7 D	70		302
hexachloroethane	PH=7	0.2 ug/L	4	14 D	40		302
hexachloroethane	PH=7	0.2 ug/L	4	21 D	60		302
hexachloroethane	PH=9	0.2 ug/L	4	0 D	105		302
hexachloroethane	PH=9	0.2 ug/L	4	7 D	95		302
hexachloroethane	PH=9	0.2 ug/L	4	14 D	85		302
methoxychlor (DMDT)	CHLOROFORM	0.4 ug/L	4	3 W	98	Quebec Water	216
methoxychlor (DMDT)	CHLOROFORM	0.4 ug/L	4	3 W	102	Saskatchewan water	216
methoxychlor (DMDT)	CHLOROFORM	0.4 ug/L	4	3 W	87	L. Ontario water	216
methoxychlor (DMDT)	CHLOROFORM	0.4 ug/L	4	3 W	82	Lake Ontario Water	216
methoxychlor (DMDT)	CHLOROFORM	0.4 ug/L	4	3 W	99	New Brunswick Water	216

Matrix: Water Class: Neutral Chlorinated Extracables

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
methoxychlor (DMDT)	CHLOROFORM	0.4 ug/L	4	3 W	89	British Columbia Water	216
methoxychlor (DMDT)	CHLOROFORM	0.4 ug/L	4	6 W	84	Saskatchewan water	216
methoxychlor (DMDT)	CHLOROFORM	0.4 ug/L	4	6 W	97	L. Ontario water	216
methoxychlor (DMDT)	CHLOROFORM	0.4 ug/L	4	6 W	99	Lake Ontario Water	216
methoxychlor (DMDT)	CHLOROFORM	0.4 ug/L	4	6 W	83	British Columbia Water	216
methoxychlor (DMDT)	CHLOROFORM	0.4 ug/L	4	6 W	131	Quebec Water	216
methoxychlor (DMDT)	CHLOROFORM	0.4 ug/L	4	6 W	103	New Brunswick Water	216
methoxychlor (DMDT)	CHLOROFORM	0.4 ug/L	4	9 W	95	L. Ontario water	216
methoxychlor (DMDT)	CHLOROFORM	0.4 ug/L	4	10 W	94	British Columbia Water	216
methoxychlor (DMDT)	CHLOROFORM	0.4 ug/L	4	10 W	90	New Brunswick Water	216
methoxychlor (DMDT)	CHLOROFORM	0.4 ug/L	4	10 W	87	Saskatchewan water	216
methoxychlor (DMDT)	CHLOROFORM	0.4 ug/L	4	10 W	91	Quebec Water	216
methoxychlor (DMDT)	CHLOROFORM	0.4 ug/L	4	10 W	95	Lake Ontario Water	216
methoxychlor (DMDT)	CHLOROFORM	0.4 ug/L	4	15 W	255	New Brunswick Water	216
methoxychlor (DMDT)	CHLOROFORM	0.4 ug/L	4	15 W	105	Lake Ontario Water	216
methoxychlor (DMDT)	CHLOROFORM	0.4 ug/L	4	15 W	91	L. Ontario water	216
methoxychlor (DMDT)	CHLOROFORM	0.4 ug/L	4	15 W	312	British Columbia Water	216
methoxychlor (DMDT)	CHLOROFORM	0.4 ug/L	4	15 W	102	Saskatchewan water	216
methoxychlor (DMDT)	CHLOROFORM	0.4 ug/L	4	15 W	107	Quebec Water	216
methoxychlor (DMDT)	CUSO4	0.4 ug/L	4	3 W	109	L. Ontario water	216
methoxychlor (DMDT)	CUSO4	0.4 ug/L	4	6 W	92	L. Ontario water	216
methoxychlor (DMDT)	CUSO4	0.4 ug/L	4	9 W	96	L. Ontario water	216
methoxychlor (DMDT)	CUSO4	0.4 ug/L	4	15 W	102	L. Ontario water	216
methoxychlor (DMDT)	NONE		4	6 W	100	stored in dark	258
pentachlorobenzene	PH=2	0.2 ug/L	4	0 D	118		302
pentachlorobenzene	PH=2	0.2 ug/L	4	7 D	80		302
pentachlorobenzene	PH=2	0.2 ug/L	4	14 D	92		302
pentachlorobenzene	PH=7	0.2 ug/L	4	0 D	110		302
pentachlorobenzene	PH=7	0.2 ug/L	4	1 D	95		302
pentachlorobenzene	PH=7	0.2 ug/L	4	3 D	75		302
pentachlorobenzene	PH=7	0.2 ug/L	4	7 D	70		302
pentachlorobenzene	PH=7	0.2 ug/L	4	14 D	50		302
pentachlorobenzene	PH=7	0.2 ug/L	4	21 D	61		302
pentachlorobenzene	PH=9	0.2 ug/L	4	0 D	110		302
pentachlorobenzene	PH=9	0.2 ug/L	4	7 D	255		302
pentachlorobenzene	PH=9	0.2 ug/L	4	14 D	235		302
1,2,3,4-tetrachlorobenzene	PH=2	2 ug/L	4	0 D	110		302
1,2,3,4-tetrachlorobenzene	PH=2	2 ug/L	4	7 D	80		302
1,2,3,4-tetrachlorobenzene	PH=2	2 ug/L	4	14 D	85		302
1,2,3,4-tetrachlorobenzene	PH=7	2 ug/L	4	0 D	105		302
1,2,3,4-tetrachlorobenzene	PH=7	2 ug/L	4	1 D	90		302
1,2,3,4-tetrachlorobenzene	PH=7	2 ug/L	4	3 D	65		302
1,2,3,4-tetrachlorobenzene	PH=7	2 ug/L	4	7 D	70		302
1,2,3,4-tetrachlorobenzene	PH=7	2 ug/L	4	14 D	40		302
1,2,3,4-tetrachlorobenzene	PH=7	2 ug/L	4	21 D	60		302
1,2,3,4-tetrachlorobenzene	PH=9	2 ug/L	4	0 D	115		302
1,2,3,4-tetrachlorobenzene	PH=9	2 ug/L	4	7 D	100		302
1,2,3,4-tetrachlorobenzene	PH=9	2 ug/L	4	14 D	85		302
1,2,3,5-tetrachlorobenzene	PH=2	2 ug/L	4	0 D	115		302

Matrix: Water

Class: Neutral Chlorinated Extracables

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
1,2,3,5-tetrachlorobenzene	PH=2	2 ug/L	4	7 D	78		302
1,2,3,5-tetrachlorobenzene	PH=2	2 ug/L	4	14 D	85		302
1,2,3,5-tetrachlorobenzene	PH=7	2 ug/L	4	0 D	105		302
1,2,3,5-tetrachlorobenzene	PH=7	2 ug/L	4	1 D	90		302
1,2,3,5-tetrachlorobenzene	PH=7	2 ug/L	4	3 D	60		302
1,2,3,5-tetrachlorobenzene	PH=7	2 ug/L	4	7 D	65		302
1,2,3,5-tetrachlorobenzene	PH=7	2 ug/L	4	14 D	25		302
1,2,3,5-tetrachlorobenzene	PH=7	2 ug/L	4	21 D	55		302
1,2,3,5-tetrachlorobenzene	PH=9	2 ug/L	4	0 D	110		302
1,2,3,5-tetrachlorobenzene	PH=9	2 ug/L	4	7 D	105		302
1,2,3,5-tetrachlorobenzene	PH=9	2 ug/L	4	14 D	90		302
1,2,4,5-tetrachlorobenzene	PH=2	2 ug/L	4	0 D	115		302
1,2,4,5-tetrachlorobenzene	PH=2	2 ug/L	4	7 D	78		302
1,2,4,5-tetrachlorobenzene	PH=2	2 ug/L	4	14 D	85		302
1,2,4,5-tetrachlorobenzene	PH=7	2 ug/L	4	0 D	105		302
1,2,4,5-tetrachlorobenzene	PH=7	2 ug/L	4	1 D	90		302
1,2,4,5-tetrachlorobenzene	PH=7	2 ug/L	4	3 D	60		302
1,2,4,5-tetrachlorobenzene	PH=7	2 ug/L	4	7 D	65		302
1,2,4,5-tetrachlorobenzene	PH=7	2 ug/L	4	14 D	25		302
1,2,4,5-tetrachlorobenzene	PH=7	2 ug/L	4	21 D	55		302
1,2,4,5-tetrachlorobenzene	PH=9	2 ug/L	4	0 D	115		302
1,2,4,5-tetrachlorobenzene	PH=9	2 ug/L	4	7 D	100		302
1,2,4,5-tetrachlorobenzene	PH=9	2 ug/L	4	14 D	85		302
total pcbs	NONE		4	6 W	100	stored in dark	258
1,2,3-trichlorobenzene	PH=2	2 ug/L.	4	0 D	113		302
1,2,3-trichlorobenzene	PH=2	2 ug/L.	4	7 D	75		302
1,2,3-trichlorobenzene	PH=2	2 ug/L.	4	14 D	90		302
1,2,3-trichlorobenzene	PH=7	2 ug/L.	4	0 D	100		302
1,2,3-trichlorobenzene	PH=7	2 ug/L.	4	1 D	90		302
1,2,3-trichlorobenzene	PH=7	2 ug/L.	4	3 D	60		302
1,2,3-trichlorobenzene	PH=7	2 ug/L.	4	7 D	65		302
1,2,3-trichlorobenzene	PH=7	2 ug/L.	4	14 D	35		302
1,2,3-trichlorobenzene	PH=7	2 ug/L.	4	21 D	57		302
1,2,3-trichlorobenzene	PH=9	2 ug/L.	4	0 D	110		302
1,2,3-trichlorobenzene	PH=9	2 ug/L.	4	7 D	97		302
1,2,3-trichlorobenzene	PH=9	2 ug/L.	4	14 D	88		302
1,2,4-trichlorobenzene	PH=2	2 ug/L.	4	0 D	108		302
1,2,4-trichlorobenzene	PH=2	2 ug/L.	4	7 D	65		302
1,2,4-trichlorobenzene	PH=2	2 ug/L.	4	14 D	25		302
1,2,4-trichlorobenzene	PH=7	2 ug/L.	4	0 D	100		302
1,2,4-trichlorobenzene	PH=7	2 ug/L.	4	1 D	80		302
1,2,4-trichlorobenzene	PH=7	2 ug/L.	4	3 D	55		302
1,2,4-trichlorobenzene	PH=7	2 ug/L.	4	7 D	50		302
1,2,4-trichlorobenzene	PH=7	2 ug/L.	4	14 D	15		302
1,2,4-trichlorobenzene	PH=7	2 ug/L.	4	21 D	15		302
1,2,4-trichlorobenzene	PH=9	2 ug/L.	4	0 D	110		302
1,2,4-trichlorobenzene	PH=9	2 ug/L.	4	7 D	45		302
1,2,4-trichlorobenzene	PH=9	2 ug/L.	4	14 D	22		302
1,3,5-trichlorobenzene	PH=2	2 ug/L	4	0 D	112		302

Matrix: Water   Class: Neutral Chlorinated Extracables

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
1,3,5-trichlorobenzene	PH=2	2 ug/L	4	7 D	65		302
1,3,5-trichlorobenzene	PH=2	2 ug/L	4	14 D	80		302
1,3,5-trichlorobenzene	PH=7	2 ug/L	4	0 D	105		302
1,3,5-trichlorobenzene	PH=7	2 ug/L	4	1 D	80		302
1,3,5-trichlorobenzene	PH=7	2 ug/L	4	3 D	60		302
1,3,5-trichlorobenzene	PH=7	2 ug/L	4	7 D	60		302
1,3,5-trichlorobenzene	PH=7	2 ug/L	4	14 D	35		302
1,3,5-trichlorobenzene	PH=7	2 ug/L	4	21 D	50		302
1,3,5-trichlorobenzene	PH=9	2 ug/L	4	0 D	110		302
1,3,5-trichlorobenzene	PH=9	2 ug/L	4	7 D	90		302
1,3,5-trichlorobenzene	PH=9	2 ug/L	4	14 D	75		302

COMPOUND CLASS PROFILE

Neutral Chlorinated Extractables

Sediment:

Existing Criteria:	None
Experimental Data:	Two Studies, limited data, no preservation at various temperatures for up to 26 months.
Data Evaluation:	None
Data Deficiencies:	No data obtained for majority of compounds on list.
Storage Recommendations:	Tentative recommendation - store in glass containers at -85°C for up to 2 years before analysis.

COMPOUND CLASS: *Neutral Chlorinated Extractables* MATRIX: *Sediment* RUN DATE: *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION	T (C)	TIME	RECOVERY	COMMENT	REFERENCE
gamma-BHC		-	-150	26 - 26 M	75 - 75		
			Average Recovery:		75	Std. Dev.: 0.0	
p,p'-dde		-	-150	26 - 26 M	75 - 100		
			Average Recovery:		88	Std. Dev.: 12.5	
o,p'-ddt		-	-85	26 - 26 M	75 - 100		
			Average Recovery:		88	Std. Dev.: 12.5	
4,4'-ddt		-	-85	26 - 26 M	75 - 83		
			Average Recovery:		79	Std. Dev.: 4.0	
hexachlorobenzene		-	-85	26 - 26 M	100 - 112		
			Average Recovery:		106	Std. Dev.: 6.0	
	NONE	-	-20	3 - 7 D	60 - 65		
			Average Recovery:		62	Std. Dev.: 2.1	

Matrix: Sediment

Class: Neutral Chlorinated Extracables

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
gamma-BHC			-85	26 M	75	in glass	243
gamma-BHC			-150	26 M	75	in glass	243
p,p'-dde			-85	26 M	100	in glass	243
p,p'-dde			-150	26 M	75	in glass	243
o,p'-ddt			-150	26 M	75	in glass	243
o,p'-ddt			-85	26 M	100	in glass	243
4,4'-ddt			-150	26 M	75	in glass	243
4,4'-ddt			-85	26 M	83	in glass	243
hexachlorobenzene			-150	26 M	100	in glass	243
hexachlorobenzene			-85	26 M	112	in glass	243
hexachlorobenzene	NONE		-20	3 D	60		232
hexachlorobenzene	NONE		4	3 D	63		232
hexachlorobenzene	NONE		4	7 D	65		232
hexachlorobenzene	NONE		-20	7 D	60		232

COMPOUND CLASS PROFILE

Neutral Chlorinated Extractables

Vegetation:

Existing Criteria:	None
Experimental Data:	Four studies, some use extraction and storage at various temperatures. Other studies have no preservatives and low temperatures.
Data Evaluation:	Comparison of data indicates that extraction and storage gives excellent recoveries after 5 years. On the other hand, wrapping the sample in aluminum foil and freezing is also stable over the long term.
Data Deficiencies:	Limited data obtained, no statistical analysis possible. No data obtained for majority of compounds on list.
Storage Recommendations:	Tentative recommendation - store samples at 4°C with extraction as soon as possible after sampling. Extracts can be stored at 4°C for up to 8 weeks and in some cases for 5 years.

COMPOUND CLASS: *Neutral Chlorinated Extractables* **MATRIX:** *Vegetation* **RUN DATE:** *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME	RECOVERY	COMMENT	REFERENCE
aldrin								
	AL-FOIL	0.04 - - 0.04 - 0.27	mg/kg	-18	5 - 5 Y	100 - 100		
				Average Recovery:		100	Std. Dev.: 0.0	
gamma-BHC								
	CH3CN-EXTR.	0.1 - 0.1	mg/kg	23	8 - 8 W	100 - 100		
				Average Recovery:		100	Std. Dev.: 0.0	
	EXTR & CL-UP	0.1 - 0.1	mg/kg	8	8 - 8 W	95 - 95		
				Average Recovery:		95	Std. Dev.: 0.0	
	EXTR/FLORISL	0.1 - 0.1	mg/kg	23	8 - 8 W	94 - 94		
				Average Recovery:		94	Std. Dev.: 0.0	
4,4'-ddt								
	NONE	12.7 - 4.4	mg/kg	12	1 - 16 D	100 - 100		
				Average Recovery:		100	Std. Dev.: 0.0	
dieldrin								
	AL-FOIL	0.03 - - 0.03 - 0.80	mg/kg	-18	5 - 5 Y	100 - 100		
				Average Recovery:		100	Std. Dev.: 0.0	

Matrix: Vegetation Class: Neutral Chlorinated Extracables

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
aldrin	AL-FOIL	0.04 - 0.27 mg/kg	-18	5 Y	100	Used C-14 labelled spike	97
gamma-BHC	CH3CN-EXTR.	0.1 mg/kg	8	8 W	100	Extracts of tomatoes	196
gamma-BHC	CH3CN-EXTR.	0.1 mg/kg	23	8 W	100	Extracts of tomatoes	196
gamma-BHC	EXTR & CL-UP	0.1 mg/kg	8	8 W	95	Tomatoes/Final extr. in hexane	196
gamma-BHC	EXTR/FLORISL	0.1 mg/kg	23	8 W	94	Tomatoes/Final extr. in hexane	196
4,4'-ddt	NONE	12.7 ppm	7	1 D	0		212
4,4'-ddt	NONE	13.2 ppm	7	5 D	0		212
4,4'-ddt	NONE	14.4 ppm	7	16 D	0		212
4,4'-ddt	NONE	14.7 ppm	7	9 D	0		212
4,4'-ddt	NONE	14.9 ppm	7	13 D	0		212
4,4'-ddt	NONE	3.7 mg/kg	12	4 D	100		211
4,4'-ddt	NONE	3.8 mg/kg	12	7 D	100		211
4,4'-ddt	NONE	4.4 mg/kg	12	1 D	100		211
dieldrin	AL-FOIL	0.03 - 0.80 mg/kg	-18	5 Y	100	Used C-14 labelled spike	97

COMPOUND CLASS PROFILE

Neutral Chlorinated Extractables

Waste Water:

Existing Criteria:	U.S. EPA Sampling Manual. Collect in amber glass container with teflon lined cap; pH 5-9; refrigerate; extract within 7 days; analyze within 40 days of extraction.
Experimental Data:	One study, no preservatives and low temperatures.
Data Evaluation:	Evaluation of recoveries with storage time.
Data Deficiencies:	Limited data obtained, no statistical analysis possible. No data obtained for majority of compounds on list.
Storage Recommendations:	Tentative recommendation - collection in amber glass bottles; addition of chloroform; refrigerate; extract within 7 days and analyze.

COMPOUND CLASS: *Neutral Chlorinated Extractables* MATRIX: *Wastewater* RUN DATE: *12-Oct-8*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME		RECOVERY	COMMENT	REFERENCE
aldrin		10 - 10	ug/L	4	2 - 2	W	80 - 80		
				Average Recovery:			80	Std. Dev.: 0.0	
gamma-BHC		10 - 10	ug/L	4	8 - 8	W	100 - 100		
				Average Recovery:			100	Std. Dev.: 0.0	
a-chlordane		10 - 10	ug/L	4	8 - 8	W	85 - 85		
				Average Recovery:			85	Std. Dev.: 0.0	
p,p'-ddd		10 - 10	ug/L	4	8 - 8	W	100 - 100		
				Average Recovery:			100	Std. Dev.: 0.0	
p,p'-dde		10 - 10	ug/L	4	8 - 8	W	100 - 100		
				Average Recovery:			100	Std. Dev.: 0.0	
4,4'-ddt		10 - 10	ug/L	4	8 - 8	W	100 - 100		
				Average Recovery:			100	Std. Dev.: 0.0	
dieldrin		10 - 10	ug/L	4	8 - 8	W	100 - 100		
				Average Recovery:			100	Std. Dev.: 0.0	
alpha-endosulfan (Endosulfan I		10 - 10	ug/L	4	1 - 1	W	30 - 30		
				Average Recovery:			30	Std. Dev.: 0.0	
endrin		10 - 10	ug/L	4	8 - 8	W	100 - 100		
				Average Recovery:			100	Std. Dev.: 0.0	
heptachlor		10 - 10	ug/L	4	1 - 1	W	25 - 25		
				Average Recovery:			25	Std. Dev.: 0.0	

COMPOUND CLASS: *Neutral Chlorinated Extractables* **MATRIX:** *Wastewater* **RUN DATE:** *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION	T (C)	TIME	RECOVERY	COMMENT	REFERENCE
heptachlor epoxide							
		10 - 10 ug/L	4	8 - 8 W	100 - 100		
			Average Recovery:		100	Std. Dev.: 0.0	

Matrix: Waste Waters Class: Neutral Chlorinated Extracables

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
aldrin		10 ug/L	4	2 W	80		74
gamma-BHC		10 ug/L	4	8 W	100		74
a-chlordane		10 ug/L	4	8 W	85		74
p,p'-ddd		10 ug/L	4	8 W	100		74
p,p'-dde		10 ug/L	4	8 W	100		74
4,4'-ddt		10 ug/L	4	8 W	100		74
dieldrin		10 ug/L	4	8 W	100		74
alpha-endosulfan (Endosulfan I		10 ug/L	4	1 W	30		74
endrin		10 ug/L	4	8 W	100		74
heptachlor		10 ug/L	4	1 W	25		74
heptachlor epoxide		10 ug/L	4	8 W	100		74

COMPOUND CLASS PROFILE

Organophosphorus Pesticides

Biota:

Existing Criteria:	None
Experimental Data:	One study, extracts at low temperature at 6 months.
Data Evaluation:	Evaluated recovery at 6 months.
Data Deficiencies:	Insufficient or no data obtained for most of the compounds on the target list.
Storage Recommendations:	Tentative recommendation - extract in 2-propanol and store at -17°C for up to 6 months for most compounds.

COMPOUND CLASS: *Organophosphorus Pesticides* MATRIX: *Biota* RUN DATE: *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION	T (C)	TIME	RECOVERY	COMMENT	REFERENCE
diazinon							
	2-PROPANOL	-	-17	6 - 6 M	90 - 90		
			Average Recovery:		90	Std. Dev.: 0.0	
dichlorvos							
	2-PROPANOL	-	-17	6 - 6 M	90 - 90		
			Average Recovery:		90	Std. Dev.: 0.0	
ethyl parathion							
	2-PROPANOL	-	-17	6 - 6 M	93 - 93		
			Average Recovery:		93	Std. Dev.: 0.0	
guthion (azinphos-methyl)							
	2-PROPANOL	-	-17	6 - 6 M	90 - 90		
			Average Recovery:		90	Std. Dev.: 0.0	
methyl parathion							
	2-PROPANOL	-	-17	6 - 6 M	90 - 90		
			Average Recovery:		90	Std. Dev.: 0.0	
mevinphos							
	2-PROPANOL	-	-17	6 - 6 M	87 - 87		
			Average Recovery:		87	Std. Dev.: 0.0	
phorate							
	2-PROPANOL	-	-17	6 - 6 M	60 - 60		
			Average Recovery:		60	Std. Dev.: 0.0	

Matrix: Biota Class: Organophosphorus Pesticides

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
diazinon	2-PROPANOL		-17	6 M	90		313
dichlorvos	2-PROPANOL		-17	6 M	90		313
ethyl parathion	2-PROPANOL		-17	6 M	93		313
guthion (azinphos-methyl)	2-PROPANOL		-17	6 M	90		313
methyl parathion	2-PROPANOL		-17	6 M	90		313
mevinphos	2-PROPANOL		-17	6 M	87		313
phorate	2-PROPANOL		-17	6 M	60		313

COMPOUND CLASS PROFILE

Organophosphorus Pesticides

Drinking/Surface Water:

Existing Criteria:	U.S. EPA Sampling Manual Collect in amber glass container with teflon lined cap; pH 5-9; refrigerate; extract within 7 days; analyze within 40 days of extraction.
Experimental Data:	One major study. No preservation, comparison of storage at 4°C for 28 and 42 days was studied. 1-10 ug/L level.
Data Evaluation:	Statistical Evaluation of storage for 28 and 42 days demonstrates that for the majority of the compounds, sample recoveries are higher at 28 days than at 42 days.
Data Deficiencies:	No data obtained for chlorpyriphos, dichlorvos, mevinphos, ethyl parathion, reldan.
Storage Recommendations:	Provisional recommendation - store samples at 4°C for up to 6 weeks with no preservation.

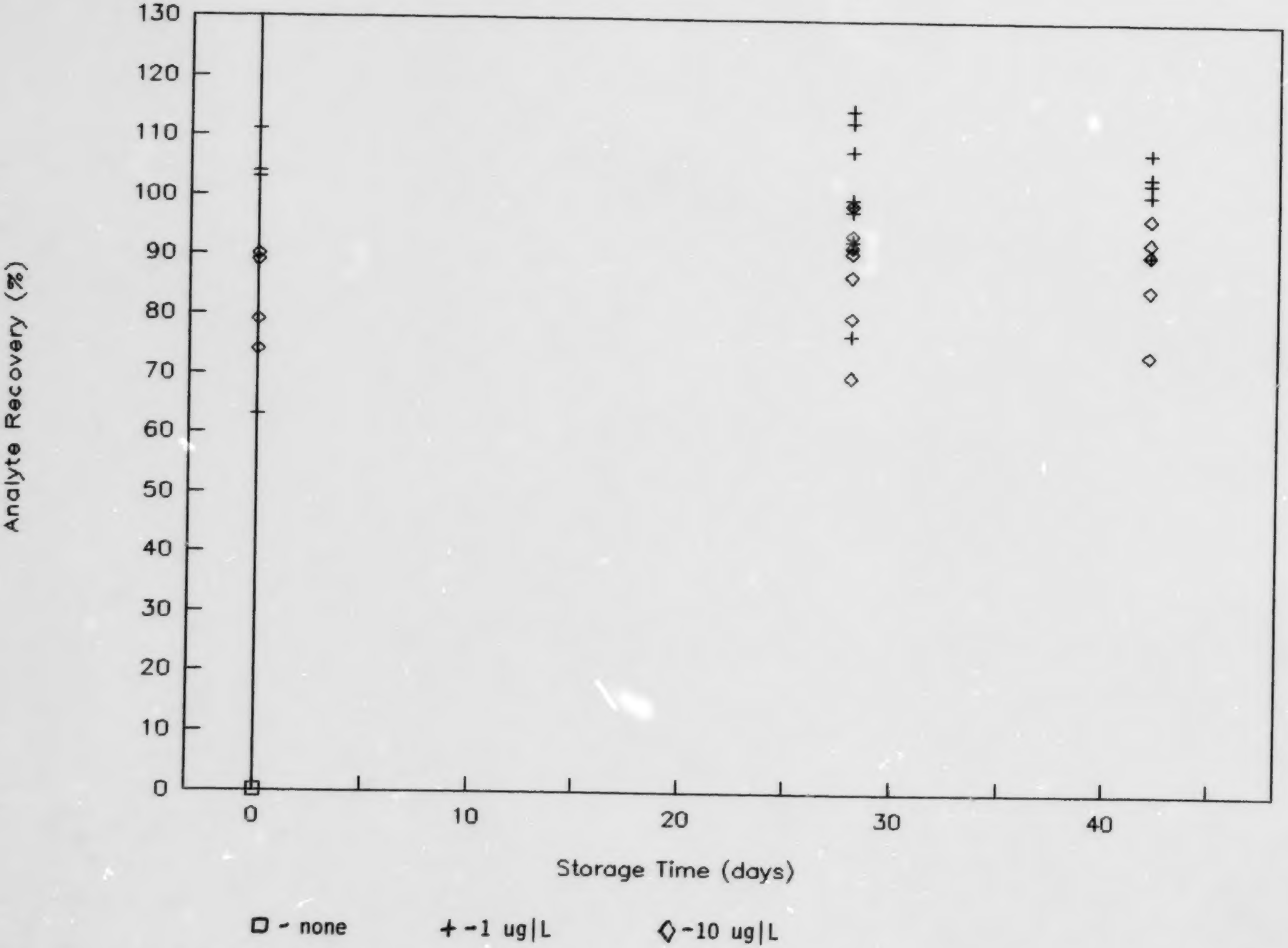
COMPOUND CLASS: *Organophosphorus Pesticides* MATRIX: *Drinking/Surface Water* RUN DATE: *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION	T (C)	TIME	RECOVERY	COMMENT	REFERENCE
chlorpyriphos (dursban)							
	HEXANE	-	25	6 - 6 W	91 - 91		
			Average Recovery:		91	Std. Dev.: 0.0	
diazinon							
	HEXANE	-	25	6 - 6 W	90 - 90		
			Average Recovery:		90	Std. Dev.: 0.0	
	NONE	1 - unspecified ug/L	4	0 - 42 D	85 - 104		
			Average Recovery:		93	Std. Dev.: 6.9	
ethion							
	HEXANE	-	25	6 - 6 W	98 - 98		
			Average Recovery:		98	Std. Dev.: 0.0	
	NONE	1 - 10 ug/L	4	28 - 42 D	91 - 103		
			Average Recovery:		96	Std. Dev.: 4.6	
ethyl parathion							
	NONE	1 - 10 ug/L	4	28 - 42 D	87 - 111		
			Average Recovery:		98	Std. Dev.: 8.9	
guthion (azinphos-methyl)							
	NONE	1 - 10 ug/L	4	21 - 42 D	70 - 115		
			Average Recovery:		93	Std. Dev.: 16.8	
malathion							
	HEXANE	-	25	6 - 6 W	91 - 91		
			Average Recovery:		91	Std. Dev.: 0.0	
	NONE	1 - unspecified ug/L	4	0 - 42 D	74 - 104		
			Average Recovery:		92	Std. Dev.: 11.3	
methyl parathion							
	NONE	1 - unspecified ug/L	4	0 - 42 D	74 - 108		
			Average Recovery:		93	Std. Dev.: 12.5	
methyl trithion (methyl cartop							
	HEXANE	-	25	6 - 6 W	89 - 89		
			Average Recovery:		89	Std. Dev.: 0.0	

COMPOUND CLASS: *Organophosphorus Pesticides* MATRIX: *Drinking/Surface Water* RUN DATE: *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME		RECOVERY	COMMENT	REFERENCE
methyl trithion (methyl cartop									
	NONE	1 - 10	ug/L	4	28 - 42	D	94 - 113		
				Average Recovery:			102	Std. Dev.: 7.0	
phorate									
	NONE	1 - 10	ug/L	4	28 - 42	D	63 - 89		
				Average Recovery:			77	Std. Dev.: 9.3	
reldan (methyl chlorpyriphos)									
	HEXANE	-		25	6 - 6	W	90 - 90		
				Average Recovery:			90	Std. Dev.: 0.0	
ronnel (fenchlorphos)									
	HEXANE	-		25	6 - 6	W	100 - 100		
				Average Recovery:			100	Std. Dev.: 0.0	
	NONE	1 - unspecified	ug/L	4	0 - 42	D	92 - 103		
				Average Recovery:			96	Std. Dev.: 4.5	

Figure A-30 Analyte Recovery with no Preservatives for Organophosphorus Pesticides in Drinking/Surface Water Matrix



Ref: ASC 166, 168

Matrix: Water Class: Organophosphorus Pesticides

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
chlorpyriphos (dursban)	HEXANE		25	6 W	91	extract	247
diazinon	HEXANE		25	6 W	90	extract	247
diazinon	NONE	1 ug/L	4	28 D	104		166
diazinon	NONE	1 ug/L	4	42 D	91		166
diazinon	NONE	10 ug/L	4	28 D	93		166
diazinon	NONE	10 ug/L	4	42 D	85		166
diazinon	NONE	unspecified ug/L	4	0 D	0	Approximate result see article	168
ethion	HEXANE		25	6 W	98	extract	247
ethion	NONE	1 ug/L	4	28 D	103		166
ethion	NONE	1 ug/L	4	42 D	93		166
ethion	NONE	10 ug/L	4	28 D	97		166
ethion	NONE	10 ug/L	4	42 D	91		166
ethyl parathion	NONE	1 ug/L	4	28 D	111		166
ethyl parathion	NONE	1 ug/L	4	42 D	101		166
ethyl parathion	NONE	10 ug/L	4	28 D	94		166
ethyl parathion	NONE	10 ug/L	4	42 D	87		166
guthion (azinphos-methyl)	NONE	1 ug/L	4	28 D	115		166
guthion (azinphos-methyl)	NONE	1 ug/L	4	42 D	108		166
guthion (azinphos-methyl)	NONE	10 ug/L	4	21 D	80	Approximate result see article	168
guthion (azinphos-methyl)	NONE	10 ug/L	4	28 D	91		166
guthion (azinphos-methyl)	NONE	10 ug/L	4	42 D	70		166
malathion	HEXANE		25	6 W	91	extract	247
malathion	NONE	1 ug/L	4	28 D	104		166
malathion	NONE	1 ug/L	4	42 D	98		166
malathion	NONE	10 ug/L	4	28 D	90		166
malathion	NONE	10 ug/L	4	42 D	74		166
malathion	NONE	unspecified ug/L	4	0 D	0	Approximate result see article	168
methyl parathion	NONE	1 ug/L	4	28 D	108		166
methyl parathion	NONE	1 ug/L	4	42 D	99		166
methyl parathion	NONE	10 ug/L	4	28 D	91		166
methyl parathion	NONE	10 ug/L	4	42 D	74		166
methyl parathion	NONE	unspecified ug/L	4	0 D	0	Approximate result see article	168
methyl trithion (methyl cartop	HEXANE		25	6 W	89	extract	247
methyl trithion (methyl cartop	NONE	1 ug/L	4	28 D	113		166
methyl trithion (methyl cartop	NONE	1 ug/L	4	42 D	100		166
methyl trithion (methyl cartop	NONE	10 ug/L	4	28 D	99		166
methyl trithion (methyl cartop	NONE	10 ug/L	4	42 D	94		166
phorate	NONE	1 ug/L	4	28 D	77		166
phorate	NONE	1 ug/L	4	42 D	63		166
phorate	NONE	10 ug/L	4	28 D	89		166
phorate	NONE	10 ug/L	4	42 D	79		166
reldan (methyl chlorpyriphos)	HEXANE		25	6 W	90	extract	247
ronnel (fenchlorphos)	HEXANE		25	6 W	100	extract	247
ronnel (fenchlorphos)	NONE	1 ug/L	4	28 D	103		166
ronnel (fenchlorphos)	NONE	1 ug/L	4	42 D	92		166
ronnel (fenchlorphos)	NONE	10 ug/L	4	28 D	57		166
ronnel (fenchlorphos)	NONE	10 ug/L	4	42 D	92		166
ronnel (fenchlorphos)	NONE	unspecified ug/L	4	0 D	0	Approximate result see article	168

COMPOUND CLASS PROFILE

Organophosphorus Pesticides

Sediment:

Existing Criteria:	None
Experimental Data:	One study, one entry for each of two compounds, low temperature, no preservation for 40 months.
Data Evaluation:	None
Data Deficiencies:	No data obtained for majority of compounds on list.
Storage Recommendations:	Tentative recommendation - samples to be stored at -85°C for up to 40 months with no preservation.

COMPOUND CLASS: *Organophosphorus Pesticides* MATRIX: *Sediment* RUN DATE: *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION	T (C)	TIME	RECOVERY	COMMENT	REFERENCE
ethyl parathion							
		-	-25	60 - 60 M	70 - 70		
			Average Recovery:		70	Std. Dev.: 0.0	
malathion							
		-	-85	60 - 60 M	100 - 100		
			Average Recovery:		100	Std. Dev.: 0.0	

Matrix: Sediment Class: Organophosphorus Pesticides

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
ethyl parathion			-85	40 M	70	in glass	243
malathion			-85	40 M	100	in glass	243

COMPOUND CLASS PROFILE

Organophosphorus Pesticides

Vegetation:

Existing Criteria:	None
Experimental Data:	Numerous studies, some use extraction and storage at various temperatures. Other studies have no preservatives and low temperatures.
Data Evaluation:	Comparison of data indicates that extraction and storage gives excellent recoveries after long term storage. On the other hand, storage of samples with no preservation at various temperatures is stable.
Data Deficiencies:	Limited data obtained, no statistical analysis possible. Some of the data obtained is qualitative. Data is conflicting from some of the studies. No data available for chlorpyriphos, methyl parathion, phorate, reldan, ronnel.
Storage Recommendations:	Provisional recommendation - store samples at 4°C; extraction within 7 days; extracts stable for 8 weeks and in some cases 7 months at 4°C.

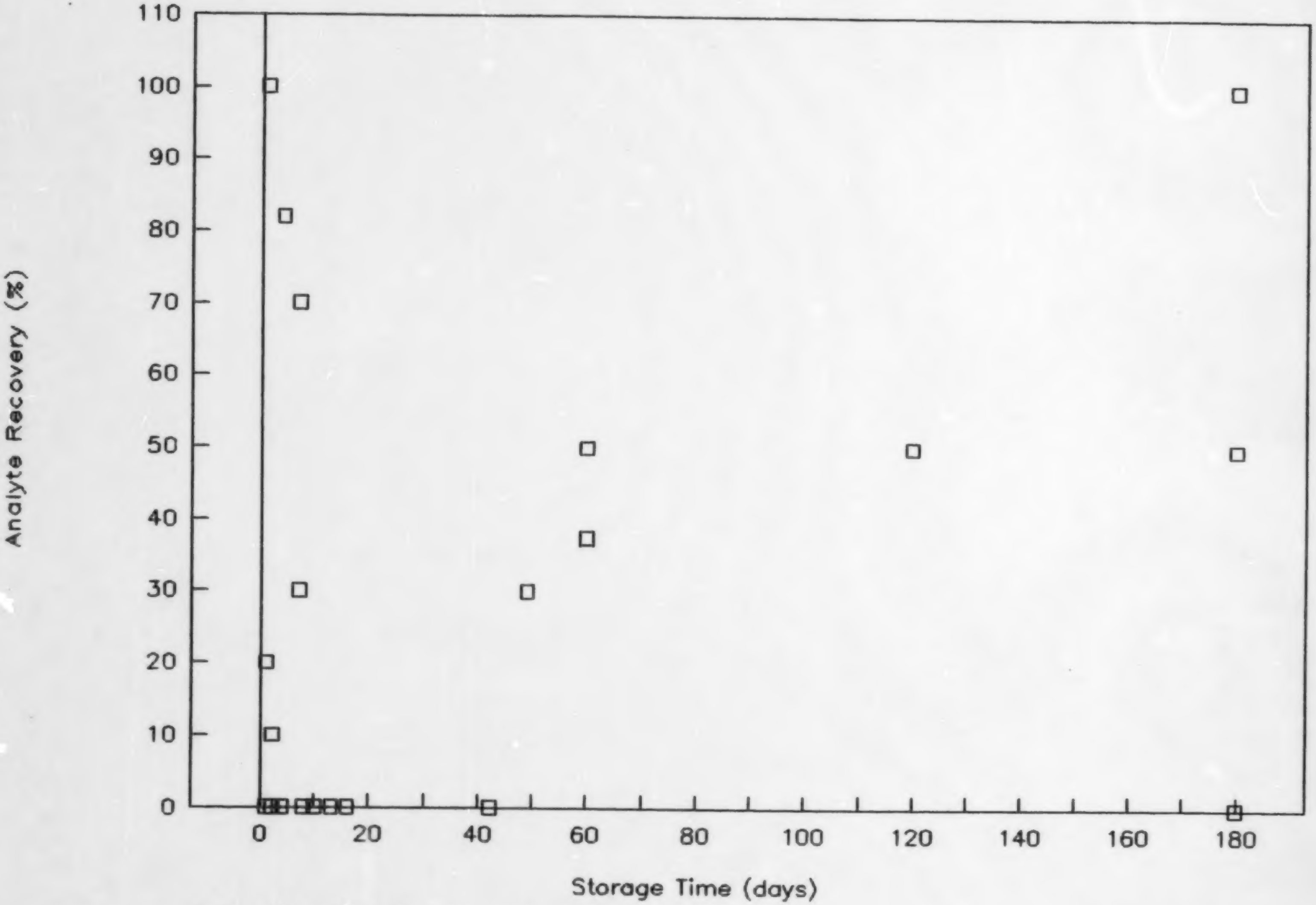
COMPOUND CLASS: *Organophosphorus Pesticides* **MATRIX:** *Vegetation* **RUN DATE:** *13-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME		RECOVERY	COMMENT	REFERENCE
diazinon									
	CH3CN-EXTR.	0.1 - 0.1	mg/kg	9	8 - 8	W	100 - 100		
				Average Recovery:			100	Std. Dev.: 0.0	
	CHCL3-EXTR	1 - 2	mg/kg	4	7 - 7	M	100 - 100		
				Average Recovery:			100	Std. Dev.: 0.0	
	COMM. DRIED	-		25	3 - 12	M	100 - 100		
				Average Recovery:			100	Std. Dev.: 0.0	
	EXTR & CL-UP	0.1 - 0.1	mg/kg	23	8 - 8	W	102 - 102		
				Average Recovery:			102	Std. Dev.: 0.0	
	HEXANE-EXTR	1 - 10	mg/kg	4	19 - 19	M	75 - 75		
				Average Recovery:			75	Std. Dev.: 0.0	
	NONE	0.1 - 0.1	mg/kg	9	2 - 6	W	-		
				Average Recovery:			0	Std. Dev.: 0.0	
dichlorvos									
	NONE	24 - 24	mg/kg	-15	2 - 49	M	30 - 38		
				Average Recovery:			33	Std. Dev.: 3.5	
ethion									
	EXTRACTS	10 - 10	mg/kg	4	5 - 5	M	-		
				Average Recovery:			0	Std. Dev.: 0.0	
	NONE	0.1 - 0.1	mg/kg	9	2 - 6	W	-		
				Average Recovery:			0	Std. Dev.: 0.0	
ethyl parathion									
	CH3CN-EXTR.	0.1 - 0.1	mg/kg	8	8 - 8	W	100 - 100		
				Average Recovery:			100	Std. Dev.: 0.0	
	COMM. DRIED	-		25	18 - 18	M	100 - 100		
				Average Recovery:			100	Std. Dev.: 0.0	
	EXTR/FLORISL	0.1 - 0.1	mg/kg	23	8 - 8	W	98 - 99		
				Average Recovery:			99	Std. Dev.: 0.5	
	NONE	1 - 10	mg/kg	-20	2 - 180	D	50 - 50		
				Average Recovery:			50	Std. Dev.: 0.0	
guthion (azinphos-methyl)									

COMPOUND CLASS: *Organophosphorus Pesticides* **MATRIX:** *Vegetation* **RUN DATE:** *13-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION	T (C)	TIME	RECOVERY	COMMENT	REFERENCE
guthion (azinphos-methyl)							
	HEXANE-EXTR	unspec - unspecified mg/kg	4	2 - 2 M	60 - 60		
			Average Recovery:		60	Std. Dev.: 0.0	
	NONE	1 - 1 mg/kg	9	2 - 6 W	-		
			Average Recovery:		0	Std. Dev.: 0.0	
malathion							
	COMM. DRIED	-	25	6 - 6 W	100 - 100		
			Average Recovery:		100	Std. Dev.: 0.0	
	NONE	0.06 - 8 mg/kg	9	1 - 8 W	10 - 100		
			Average Recovery:		40	Std. Dev.: 34.9	
methyl trithion (methyl cartop							
	NONE	0.5 - 0.5 mg/kg	9	2 - 6 W	-		
			Average Recovery:		0	Std. Dev.: 0.0	
mevinphos							
	NONE	0.25 - 10 mg/kg	-20	2 - 6 M	100 - 100		
			Average Recovery:		100	Std. Dev.: 0.0	

Figure A-31 Analyte Recovery with no Preservatives for Organophosphorus Pesticides in Vegetation Matrix



Ref: ASC 194, 195, 211, 212, 315

Matrix: Vegetation Class: Organophosphorus Pesticides

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
diazinon	CH3CN-EXTR.	0.1 mg/kg	23	8 W	100	Extracts of tomatoes	196
diazinon	CH3CN-EXTR.	0.1 mg/kg	8	8 W	100	Extracts of tomatoes	196
diazinon	CHCL3-EXTR	1 mg/kg	4	7 M	100	CHCl3 extracts of citrus fruit	194
diazinon	CHCL3-EXTR	2 mg/kg	4	7 M	100	CHCl3 extracts of vegetables	194
diazinon	COMM. DRIED		25	3 W	100	suff. stable in pea + spinach	120
diazinon	COMM. DRIED		25	18 M	100	carrot and savoy cabbage	120
diazinon	EXTR & CL-UP	0.1 mg/kg	8	8 W	102	Tomatoes/Final extr. in hexane	196
diazinon	EXTR & CL-UP	0.1 mg/kg	23	8 W	102	Tomatoes/Final extr. in hexane	196
diazinon	HEXANE-EXTR	1 mg/kg	4	19 M	0	hexane extracts of citrus fr.	194
diazinon	HEXANE-EXTR	10 mg/kg	4	19 M	75	hexane extracts of citrus fr.	194
diazinon	NONE	0.1 mg/kg	25	2 D	0	Stable - recov. not quantified	195
diazinon	NONE	0.1 mg/kg	9	6 W	0	Stable - recov. not quantified	195
dichlorvos			25	7 D	30	grain - no husk	315
dichlorvos			25	16 D	0	grain - husk intact	315
dichlorvos			-17	49 D	30	grain - husk intact	315
dichlorvos	NONE	24 mg/kg	-15	2 M	37.5	Stoned Wheat	194
ethion	EXTRACTS	10 mg/kg	4	5 M	0	Stable - Recovery Unspecified	194
ethion	NONE	0.1 mg/kg	25	2 D	0	Stable - recov. not quantified	195
ethion	NONE	0.1 mg/kg	9	6 W	0	Stable - recov. not quantified	195
ethyl parathion	CH3CN-EXTR.	0.1 mg/kg	23	8 W	100	Extracts of tomatoes	196
ethyl parathion	CH3CN-EXTR.	0.1 mg/kg	8	8 W	100	Extracts of tomatoes	196
ethyl parathion	COMM. DRIED		25	18 M	100		120
ethyl parathion	EXTR/FLORISL	0.1 mg/kg	8	8 W	98	Tomatoes/Final extr. in hexane	196
ethyl parathion	EXTR/FLORISL	0.1 mg/kg	23	8 W	99	Tomatoes/Final extr. in hexane	196
ethyl parathion	NONE	1 mg/kg	25	2 D	0	Stable - recov. not quantified	195
ethyl parathion	NONE	1 mg/kg	9	6 W	0	Stable - recov. not quantified	195
ethyl parathion	NONE	10 mg/kg	-15	6 M	0	Stable - recovery unspecified	194
ethyl parathion	NONE	10 mg/kg	-20	10 D	0	Stable- unspecified (spinach)	194
ethyl parathion	NONE	10 mg/kg	7	13 D	0	Stable - recovery unspecified	194
ethyl parathion	NONE	10 mg/kg	-20	60 D	50	spinach	194
ethyl parathion	NONE	10 mg/kg	-20	120 D	50	spinach - Recovery < 50%	194
ethyl parathion	NONE	10 mg/kg	-20	180 D	50	spinach - Recovery < 50%	194
guthion (azinphos-methyl)	HEXANE-EXTR	unspecified mg/kg	4	2 M	60	hexane extracts of citrus fr.	194
guthion (azinphos-methyl)	NONE	1 mg/kg	25	2 D	0	Stable - recov. not quantified	195
guthion (azinphos-methyl)	NONE	1 mg/kg	9	6 W	0	Stable - recov. not quantified	195
malathion	COMM. DRIED		0	6 W	100	suff. stable in pea + spinach	120
malathion	COMM. DRIED		25	6 W	0	pea and spinach	120
malathion	NONE	0.06 ppm	7	8 D	0		212
malathion	NONE	0.41 ppm	7	4 D	0		212
malathion	NONE	1.12 ppm	7	1 D	0		212
malathion	NONE	10 mg/kg	4	1 D	20	Strawberry/plum/tomat./gooseb.	194
malathion	NONE	10 mg/kg	20	1 D	20	Strawberry/plum/tomat./gooseb.	194
malathion	NONE	10 mg/kg	4	2 D	10	Strawberry/plum/tomat./gooseb.	194
malathion	NONE	10 mg/kg	20	2 D	10	Strawberry/plum/tomat./gooseb.	194
malathion	NONE	10 mg/kg	20	2 D	10	Max.Recov. @4 deg, decr. @ 20	194
malathion	NONE	4.42 mg/kg	12	7 D	70	Tomatoes	211
malathion	NONE	5.18 mg/kg	12	4 D	82	Tomatoes	211
malathion	NONE	6.28 mg/kg	12	1 D	100		211
malathion	NONE	8 mg/kg	25	2 D	0	Stable - recov. not quantified	195

Matrix: Vegetation Class: Organophosphorus Pesticides

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
malathion	NONE	8 mg/kg	9	6 W	0	Stable - recov. not quantified	195
methyl trithion (methyl cartop	NONE	0.5 mg/kg	25	2 D	0	Stable - recov. not quantified	195
methyl trithion (methyl cartop	NONE	0.5 mg/kg	9	6 W	0	Stable - recov. not quantified	195
mevinphos	NONE	0.25 mg/kg	25	2 D	0	Stable - recov. not quantified	195
mevinphos	NONE	0.25 mg/kg	9	6 W	0	Stable - recov. not quantified	195
mevinphos	NONE	10 mg/kg	-20	6 M	100	Stable over study [illegible]wk - 6mth	194

COMPOUND CLASS PROFILE

Organophosphorus Pesticides

Waste Water:

Existing Criteria:	U.S. EPA Sampling Manual Collect in amber glass container with teflon lined cap; pH 5-9; refrigerate; extract within 7 days; analyze within 40 days of extraction.
Experimental Data:	One study. No preservation, low temperature, storage times up to 8 weeks.
Data Evaluation:	Evaluation of recoveries for various storage times.
Data Deficiencies:	No data obtained for majority of compounds on target list.
Storage Recommendations:	Tentative recommendation - store samples at 4°C; extract with 7 days; store extracts at 4°C and analyze as soon as possible.

COMPOUND CLASS: *Organophosphorus Pesticides* MATRIX: *Wastewater* RUN DATE: *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME		RECOVERY	COMMENT	REFERENCE
ethion		10 - 10	ug/L	4	8 - 8	W	50 - 50		
				Average Recovery:			50	Std. Dev.: 0.0	
ethyl parathion		10 - 10	ug/L	4	1 - 1	W	50 - 50		
				Average Recovery:			50	Std. Dev.: 0.0	
malathion		10 - 10	ug/L	4	2 - 2	W	10 - 10		
				Average Recovery:			10	Std. Dev.: 0.0	
methyl parathion		10 - 10	ug/L	4	2 - 2	W	10 - 10		
				Average Recovery:			10	Std. Dev.: 0.0	
methyl trithion (methyl cartop		10 - 10	ug/L	4	2 - 2	W	10 - 10		
				Average Recovery:			10	Std. Dev.: 0.0	

Matrix: Waste Waters Class: Organophosphorus Pesticides

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
ethion		10 ug/L	4	8 W	50		74
ethyl parathion		10 ug/L	4	1 W	50		74
malathion		10 ug/L	4	2 W	10		74
methyl parathion		10 ug/L	4	2 W	10		74
methyl trithion (methyl cartop		10 ug/L	4	2 W	10		74

COMPOUND CLASS PROFILE

Acid Extractables - Phenoxy Acid Herbicides

Drinking/Surface Water:

Existing Criteria:	U.S. EPA Sampling Manual Collect in amber glass container with teflon lined cap; pH 5-9; refrigerate; extract within 7 days; analyze within 40 days of extraction.
Experimental Data:	One study with limited data. Preservation with H_2SO_4, pH <2, storage at 20°C for 41 and 50 days was studied at the 200 ug/L level.
Data Evaluation:	Evaluation of storage for 41 and 50 days demonstrates that for the compounds studied, sample recoveries are about the same at 41 days and at 50 days.
Data Deficiencies:	No data obtained for picloram and insufficient data obtained for rest of compounds.
Storage Recommendations:	Tentative recommendation - collect samples in amber glass bottles; pH=2 with H_2SO_4; samples stable for 50 days at 4°C.

COMPOUND CLASS: *Acid Extractables - Phenoxy Acid Herbicides* MATRIX: *Drinking/Surface Water* RUN DATE: *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME		RECOVERY	COMMENT	REFERENCE
dicamba									
	H2SO4 PH(2	200 - 200	ug/L	20	41 - 50	D	92 - 102		
				Average Recovery:			97	Std. Dev.: 5.2	
2.4-dichlorophenoxy-acetic aci									
	H2SO4 PH(2	200 - 200	ug/L	20	41 - 50	D	103 - 105		
				Average Recovery:			104	Std. Dev.: 1.0	
2.4-dichloro-4-phenoxybutyric									
	H2SO4 PH(2	200 - 200	ug/L	20	50 - 50	D	102 - 102		
				Average Recovery:			102	Std. Dev.: 0.0	
dichloroprop (2.4-DP)									
	H2SO4 PH(2	200 - 200	ug/L	20	41 - 50	D	102 - 102		
				Average Recovery:			102	Std. Dev.: 0.0	
silvex									
	H2SO4 PH(2	200 - 200	ug/L	20	50 - 50	D	99 - 99		
				Average Recovery:			99	Std. Dev.: 0.0	
2.4.5-trichlorophenoxy acetic									
	H2SO4 PH(2	200 - 200	ug/L	20	50 - 50	D	94 - 94		
				Average Recovery:			94	Std. Dev.: 0.0	

Matrix: Water Class: Acid Extractables - Phenoxy Acid Herbicides

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
dicamba	H2SO4 PH<2	200 ug/L	20	41 D	102	Distilled water	202
dicamba	H2SO4 PH<2	200 ug/L	20	50 D	91.6	Hamilton Bay Water	202
2,4-dichlorophenoxy-acetic aci	H2SO4 PH<2	200 ug/L	20	41 D	103	Hamilton Bay Water	202
2,4-dichlorophenoxy-acetic aci	H2SO4 PH<2	200 ug/L	20	50 D	105	Hamilton Bay Water	202
2,4-dichloro-4-phenoxybutyric	H2SO4 PH<2	200 ug/L	20	50 D	102	Distilled & Hamilton Bay Water	202
dichloroprop (2,4-DP)	H2SO4 PH<2	200 ug/L	20	41 D	102	Distilled Water	202
dichloroprop (2,4-DP)	H2SO4 PH<2	200 ug/L	20	50 D	102	Hamilton Bay Water	202
silvex	H2SO4 PH<2	200 ug/L	20	50 D	99	Distilled & Hamilton Bay Water	202
2,4,5-trichlorophenoxy acetic	H2SO4 PH<2	200 ug/L	20	50 D	94	Distilled & Hamilton Bay Water	202

COMPOUND CLASS PROFILE

Acid Extractables - Phenoxy Acid Herbicides

Sediment:

Existing Criteria:	None.
Experimental Data:	One study. No preservation. 100-300 mg/Kg level. Storage at -15°C for 330 days.
Data Evaluation:	None
Data Deficiencies:	Data is insufficient for any analysis. Only 2 data entries for picloram obtained.
Storage Recommendations:	Tentative recommendation - store at -15°C for up to 33 days with no preservation before analysis.

COMPOUND CLASS: *Acid Extractables - Phenoxy Acid Herbicides* **MATRIX:** *Sediment* **RUN DATE:** *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME	RECOVERY	COMMENT	REFERENCE
Picloram								
	NONE	100 - 300	mg/kg	-15	330 - 330 D	91 - 92		
				Average Recovery:		92	Std. Dev.: 0.5	

Matrix: Sediment Class: Acid Extractables - Phenoxy Acid Herbicides

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
picloram		100 mg/kg	-15	330 D	92	Uncorrect for Method Recovery	7
picloram		300 mg/kg	-15	330 D	91	Uncorrect for Method Recovery	7

COMPOUND CLASS PROFILE

Acid Extractables - Phenoxy Acid Herbicides

Vegetation:

Existing Criteria:	None.
Experimental Data:	One study. No preservation. No concentration level specified. Storage at -20°C for 24 and 73 weeks.
Data Evaluation:	None
Data Deficiencies:	Data is insufficient for detailed analysis. Only 2 data entries for 2,4-dichlorophenoxy-acetic acid obtained.
Storage Recommendations:	Tentative recommendation - store unpreserved samples at -20°C for up to 73 weeks before analysis.

COMPOUND CLASS: *Acid Extractables - Phenoxy Acid Herbicides* **MATRIX:** *Vegetation* **RUN DATE:** *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION	T (C)	TIME	RECOVERY	COMMENT	REFERENCE
2.4-dichlorophenoxy-acetic aci							
	NONE	-	-20	24 - 73 W	97 - 100		
			Average Recovery:		98	Std. Dev.: 1.6	

Matrix: Vegetation Class: Acid Extractables - Phenoxy Acid Herbicides

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
2,4-dichlorophenoxy-acetic aci			-20	24 W	100	millet seeds	51
2,4-dichlorophenoxy-acetic aci			-20	73 W	96.8	potatoe tubers	51

COMPOUND CLASS PROFILE

Acid Extractables - Phenoxy Acid Herbicides

Waste Water:

Existing Criteria:	U.S. EPA Sampling Manual Collect in amber glass container with teflon lined cap; pH 5-9; refrigerate; extract within 7 days; analyze within 40 days of extraction.
Experimental Data:	None
Data Evaluation:	None
Data Deficiencies:	No data obtained.
Storage Recommendations:	Tentative recommendation - collect samples in amber glass bottles; pH=2 with H_2SO_4; samples stable for 50 days at 4°C or follow U.S. EPA protocol of collection in amber glass bottle with teflon lined cap; pH 5-9, refrigerate; extract within 7 days and analyze within 40 days of extraction.

COMPOUND CLASS PROFILE

Phenyl Urea Pesticides

Drinking/Surface Water:

Existing Criteria: U.S. EPA Sampling Manual Collect in amber glass container with teflon lined cap; pH 5-9; refrigerate; extract within 7 days; analyze within 40 days of extraction.

Experimental Data: None

Data Evaluation: None

Data Deficiencies: No data obtained

Storage Recommendations: Tentative recommendation - follow U.S. EPA protocol of collection in an amber glass bottle with teflon cap; pH 5-9; refrigerate; extract within 7 days and analyze within 40 days of extraction.

COMPOUND CLASS PROFILE

Phenyl Urea Pesticides

Waste Water:

Existing Criteria:	U.S. EPA Sampling Manual Collect in amber glass container with teflon lined cap; pH 5-9; refrigerate; extract within 7 days; analyze within 40 days of extraction.
Experimental Data:	One Study. No preservation. 10 ug/L level. Storage at 4°C for 4 weeks.
Data Evaluation:	None
Data Deficiencies:	Data is insufficient for any analysis. Only 1 data entry for monuron obtained.
Storage Recommendations:	Tentative recommendation - follow U.S. EPA protocol of collection in an amber glass bottle with teflon cap; pH 5-9; refrigerate; extract within 7 days and analyze within 40 days of extraction.

COMPOUND CLASS: *Phenyl Urea Pesticides* MATRIX: *Wastewater* RUN DATE: *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME		RECOVERY	COMMENT	REFERENCE
monuron									
		10 - 10	ug/L	4	4 - 4	W	20 - 20		
				Average Recovery:			20	Std. Dev.: 0.0	

Matrix: Waste Waters Class: Phenyl Urea Pesticides

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
monuron		10 ug/L	4	4 W	20		74

COMPOUND CLASS PROFILE

Resin and Fatty Acids

Drinking/Surface Water:

Existing Criteria:	None
Experimental Data:	None
Data Evaluation:	None
Data Deficiencies:	No data obtained
Storage Recommendations:	Tentative recommendation - preserve samples at pH 11; store at 3°C for up to 10 days before extraction and analysis.

COMPOUND CLASS PROFILE

Resin and Fatty Acids

Waste Water:

Existing Criteria: None

Experimental Data: One study, data at different pH, temperature and storage time.

Data Evaluation: Evaluation of recoveries at different pH; storage time, and temperature.

Data Deficiencies: Limited data obtained for most compounds on list.

Storage Recommendations: Provisional recommendation - preserve samples at pH 11; store at 3°C for up to 10 days before extraction and analysis.

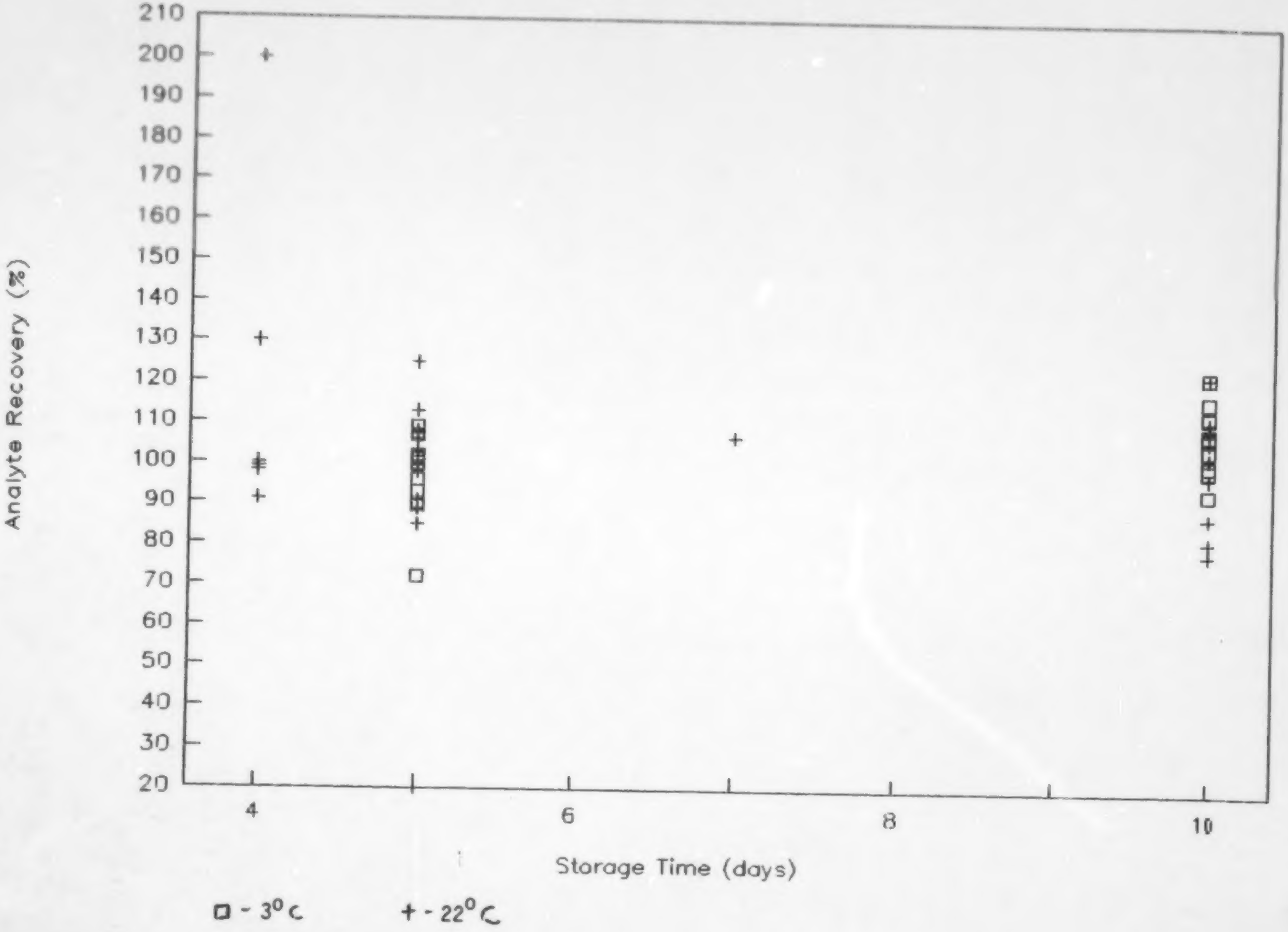
C OUND CLASS: *Resin and Fatty Acids* **MATRIX:** *Wastewater* **RUN DATE:** *26-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME		RECOVERY	COMMENT	REFERENCE
a tic acid									
	pH=11	1.03 - 6.72	PPM	3	4 - 10	D	90 - 130		
				Average Recovery:			107	Std. Dev.: 13.3	
chlorodehydroabietic acid									
	PH=11	3.14 - 3.14	ppm	22	4 - 7	D	103 - 110		
				Average Recovery:			107	Std. Dev.: 3.5	
	PH=3	3.14 - 3.14	ppm	22	4 - 7	D	89 - 96		
				Average Recovery:			93	Std. Dev.: 3.5	
d ydroabietic acid									
	pH=11	0.96 - 6.29	PPM	3	4 - 10	D	72 - 117		
				Average Recovery:			97	Std. Dev.: 12.9	
dichlorodehydroabietic acid									
	PH=11	3 - 3	ppm	22	4 - 7	D	107 - 112		
				Average Recovery:			110	Std. Dev.: 2.5	
	PH=3	3 - 3	ppm	22	4 - 7	D	89 - 100		
				Average Recovery:			95	Std. Dev.: 5.5	
9, 0-dichlorostearic acid									
	PH=11	4.04 - 4.04	ppm	22	4 - 7	D	110 - 123		
				Average Recovery:			117	Std. Dev.: 6.5	
	PH=3	4.04 - 4.04	ppm	22	4 - 7	D	92 - 98		
				Average Recovery:			95	Std. Dev.: 3.0	
pimaric acid									
	pH=11	1.18 - 5.03	PPM	22	4 - 10	D	82 - 113		
				Average Recovery:			101	Std. Dev.: 9.5	
linoleic acid									
	pH=11	0.66 - 8.34	PPM	3	4 - 10	D	79 - 109		
				Average Recovery:			101	Std. Dev.: 9.0	
olenic acid									
	pH=11	0.02 - <0.02	PPM	3	4 - 10	D	20 - 200		
				Average Recovery:			108	Std. Dev.: 45.8	

COMPOUND CLASS: *Resin and Fatty Acids* MATRIX: *Wastewater* RUN DATE: 26-Oct-89

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME	RECOVERY	COMMENT	REFERENCE
oleic acid								
	pH=11	.86 - 9.37	PPM	3	4 - 10 D	85 - 113		
				Average Recovery:		102	Std. Dev.: 9.7	
pimaric acid								
	pH=11	1.60 - 2.76	PPM	22	4 - 10 D	98 - 108		
				Average Recovery:		103	Std. Dev.: 4.3	

Figure A-32 Analyte Recovery with Temperature at pH 11 for Resin and Fatty Acids in Waste Water Matrix



Ref: ASC 230

Matrix: Waste Waters | Class: Resin and Fatty Acids

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
dehydroabietic acid	pH=11	6.29 PPM	3	5 D	96	PULP MILL SEWER	230
dehydroabietic acid	pH=11	6.29 PPM	3	10 D	94	PULP MILL SEWER	230
oleic acid	pH=11	3.68 PPM	3	10 D	109	AERATED LAGOON pH=11	230
oleic acid	pH=11	3.68 PPM	3	5 D	109	AERATED LAGOON pH=11	230
linolenic acid	pH=11	<0.02 PPM	3	10 D	100	PULP MILL SEWER	230
isopimaric acid	pH=11	3.5 PPM	3	10 D	113	PULP MILL SEWER	230
linolenic acid	pH=11	<0.02 PPM	3	10 D	100	AERATED LAGOON pH 11	230
isopimaric acid	pH=11	3.5 PPM	3	5 D	109	PULP MILL SEWER	230
oleic acid	pH=11	9.37 PPM	3	10 D	100	PULP MILL SEWER	230
linoleic acid	pH=11	8.34 PPM	3	5 D	102	PULP MILL SEWER	230
linoleic acid	pH=11	2.28 PPM	3	5 D	107	AERATED LAGOON pH 11	230
abietic acid	pH=11	6.72 PPM	3	10 D	105	PULP MILL SEWER	230
linoleic acid	pH=11	2.28 PPM	3	10 D	109	AERATED LAGOON pH 11	230
abietic acid	pH=11	2.01 PPM	3	5 D	90	PULP MILL SEWER	230
linolenic acid	pH=11	<0.02 PPM	3	5 D	100	AERATED LAGOON pH 11	230
abietic acid	pH=11	2.01 PPM	3	10 D	123	AERATED LAGOON pH 11	230
linoleic acid	pH=11	8.34 PPM	3	10 D	108	PULP MILL SEWER	230
isopimaric acid	pH=11	1.78 PPM	3	10 D	101	AERATED LAGOON pH 11	230
isopimaric acid	pH=11	1.78 PPM	3	5 D	93	AERATED LAGOON pH 11	230
dehydroabietic acid	pH=11	1.68 PPM	3	5 D	72	AERATED LAGOON pH 11	230
oleic acid	pH=11	9.37 PPM	3	5 D	101	PULP MILL SEWER	230
linolenic acid	pH=11	<0.02 PPM	3	5 D	100	PULP MILL SEWER	230
abietic acid	pH=11	6.72 PPM	3	5 D	109	PULP MILL SEWER	230
dehydroabietic acid	pH=11	1.68 PPM	3	10 D	117	AERATED LAGOON pH 11	230
abietic acid	pH=11	2.37 PPM	22	4 D	106	AERATED LAGOON pH 11	230
9,10-dichlorostearic acid	PH=11	4.04 ppm	22	7 D	123		230
9,10-dichlorostearic acid	PH=11	4.04 ppm	22	4 D	110		230
pimaric acid	pH=11	1.6 PPM	22	10 D	100	PULP MILL SEWER	230
isopimaric acid	pH=11	5.03 PPM	22	4 D	82	AERATED LAGOON pH 11	230
isopimaric acid	pH=11	1.18 PPM	22	10 D	110	PULP MILL SEWER	230
isopimaric acid	pH=11	5.03 PPM	22	10 D	103	AERATED LAGOON pH 11	230
dehydroabietic acid	pH=11	1.06 PPM	22	4 D	91	PULP MILL SEWER	230
oleic acid	pH=11	5.49 PPM	22	4 D	109	AERATED LAGOON pH 11	230
pimaric acid	pH=11	2.76 PPM	22	4 D	98	AERATED LAGOON pH 11	230
oleic acid	pH=11	5.49 PPM	22	10 D	113	AERATED LAGOON pH 11	230
dichlorodehydroabietic acid	PH=11	3 ppm	22	4 D	107		230
oleic acid	pH=11	0.86 PPM	22	4 D	88	PULP MILL SEWER	230
chlorodehydroabietic acid	PH=11	3.14 ppm	22	4 D	103		230
oleic acid	pH=11	0.86 PPM	22	10 D	85	PULP MILL SEWER	230
linoleic acid	pH=11	3.42 PPM	22	10 D	79	AERATED LAGOON pH 11	230
linoleic acid	pH=11	0.66 PPM	22	4 D	103	PULP MILL SEWER	230
dehydroabietic acid	pH=11	1.06 PPM	22	10 D	110	PULP MILL SEWER	230
linoleic acid	pH=11	0.66 PPM	22	10 D	100	PULP MILL SEWER	230
dehydroabietic acid	pH=11	0.96 PPM	22	4 D	99	AERATED LAGOON pH 11	230
linolenic acid	pH=11	0.08 PPM	22	4 D	125	AERATED LAGOON pH 11	230
pimaric acid	pH=11	1.6 PPM	22	4 D	108	PULP MILL SEWER	230
linolenic acid	pH=11	0.08 PPM	22	10 D	20	AERATED LAGOON pH 11	230
abietic acid	pH=11	1.08 PPM	22	4 D	98	PULP MILL SEWER	230
linolenic acid	pH=11	0.02 PPM	22	10 D	100	PULP MILL SEWER	230

Matrix: Waste Waters   Class: Resin and Fatty Acids

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
pimaric acid	pH=11	2.76 PPM	22	10 D	107	AERATED LAGOON pH 11	230
linolenic acid	pH=11	0.02 PPM	22	4 D	200	PULP MILL SEWER	230
chlorodehydroabietic acid	PH=11	3.14 ppm	22	7 D	110		230
abietic acid	pH=11	2.37 PPM	22	10 D	91	AERATED LAGOON pH 11	230
dichlorodehydroabietic acid	PH=11	3 ppm	22	7 D	112		230
dehydroabietic acid	pH=11	0.96 PPM	22	10 D	103	AERATED LAGOON pH 11	230
abietic acid	pH=11	1.03 PPM	22	10 D	130	PULP MILL SEWER	230
isopimaric acid	pH=11	1.18 PPM	22	4 D	99	PULP MILL SEWER	230
linoleic acid	pH=11	3.42 PPM	22	4 D	98	AERATED LAGOON pH 11	230
dichlorodehydroabietic acid	PH=3	3 ppm	22	4 D	100		230
chlorodehydroabietic acid.	PH=3	3.14 ppm	22	4 D	96		230
chlorodehydroabietic acid	PH=3	3.14 ppm	22	7 D	89		230
dichlorodehydroabietic acid	PH=3	3 ppm	22	7 D	89		230
9,10-dichlorostearic acid	PH=3	4.04 ppm	22	4 D	98		230
9,10-dichlorostearic acid	PH=3	4.04 ppm	22	7 D	92		230

COMPOUND CLASS PROFILE

Triazine Herbicides

Drinking/Surface Water:

Existing Criteria:	U.S. EPA Sampling Manual Collect in amber glass container with teflon lined cap; pH 5-9; refrigerate; extract within 7 days; analyze within 40 days of extraction.
Experimental Data:	One study, limited data for extracts for one compound with time and light conditions.
Data Evaluation:	Evaluation of recoveries in light conditions, and time.
Data Deficiencies:	No data obtained for majority of compounds on target list.
Storage Recommendations:	Tentative recommendation would be extraction of samples with ethyl acetate; storage at 24°C for up to 1 year in light or follow U.S. EPA protocol of collection in amber glass container with teflon lined cap; pH 5-9; refrigerate; extract within 7 days and analyze within 40 days of extraction.

COMPOUND CLASS: *Triazine Herbicides* MATRIX: *Drinking/Surface Water* RUN DATE: *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME	RECOVERY	COMMENT	REFERENCE
atrazine								
	ETHYL ACETAT	200 - 200	pg/ul	24	1 - 10 M	50 - 90		
				Average Recovery:		79	Std. Dev.: 16.9	

Matrix: Waters Class: Triazine Herbicides

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
atrazine	ETHYL ACETAT	200 pg/ul	24	1 Y	87	extract, light	235
atrazine	ETHYL ACETAT	200 pg/ul	24	1 Y	50	extract, dark	235
atrazine	ETHYL ACETAT	200 pg/ul	24	2 M	90	extract, dark	235
atrazine	ETHYL ACETAT	200 pg/ul	24	10 M	90	extract, light	235

COMPOUND CLASS PROFILE

Triazine Herbicides

Sediment:

Existing Criteria: None

Experimental Data: One study. Comparison of recoveries at various storage times at -20°C at the 1-10 mg/kg level after drying at 45°C for 24 hours.

Data Evaluation: Analysis of the data indicates that samples are stable in storage for up to 180 days.

Data Deficiencies: Limited data obtained, no statistical analysis feasible. No data obtained for majority of compounds on list.

Storage Recommendations: Tentative recommendation - dry at 45°C for 24 hours with analysis to be completed in 180 days. Store at -20°C.

COMPOUND CLASS: *Triazine Herbicides* MATRIX: *Sediment* RUN DATE: *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME		RECOVERY	COMMENT	REFERENCE
atrazine									
	DRY/45C/24HR	1 - 10	mg/kg	-20	30 - 360	D	40 - 95		
				Average Recovery:			78	Std. Dev.: 17.4	
metribuzin (sencor)									
	NONE	99 - 99	mg/kg	-37	295 - 295	D	75 - 75		
				Average Recovery:			75	Std. Dev.: 0.0	

Matrix: Sediment Class: Triazine Herbicides

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
atrazine	DRY/45C/24HR	1 mg/kg	-20	30 D	81	Corrected for Method Recovery	52
atrazine	DRY/45C/24HR	1 mg/kg	-20	90 D	86	Corrected for Method Recovery	52
atrazine	DRY/45C/24HR	1 mg/kg	-20	180 D	87	Corrected for Method Recovery	52
atrazine	DRY/45C/24HR	1 mg/kg	-20	360 D	59	Corrected for Method Recovery	52
atrazine	DRY/45C/24HR	10 mg/kg	-20	30 D	95	Corrected for Method Recovery	52
atrazine	DRY/45C/24HR	10 mg/kg	-20	90 D	91	Corrected for Method Recovery	52
atrazine	DRY/45C/24HR	10 mg/kg	-20	180 D	81	Corrected for Method Recovery	52
atrazine	DRY/45C/24HR	10 mg/kg	-20	360 D	40	Corrected for Method Recovery	52
metribuzin (sencor)	NONE	99 mg/kg	-37	295 D	75	Stabil. not prime objective	60

COMPOUND CLASS PROFILE

Triazine Herbicides

Vegetation:

Existing Criteria: None

Experimental Data: Two studies, one comparing the storage of extracts at 8 and 23°C. The other compares the stability of extracts to the sample.

Data Evaluation: Comparison of data indicates that extraction and storage gives excellent recoveries at both temperatures.

Data Deficiencies: Limited data obtained, no statistical analysis possible. Some of the data obtained is qualitative. No data obtained for majority of compounds on list.

Storage Recommendations: Tentative recommendation - extract samples as soon as possible and complete analysis within 2 months. Store at 4°C.

COMPOUND CLASS: *Triazine Herbicides*

MATRIX: *Vegetation*

RUN DATE: *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME		RECOVERY	COMMENT	REFERENCE
atrazine									
	ACETONE-EXTR	1 - 1	mg/kg	23	8 - 8	W	99 - 99		
				Average Recovery:			99	Std. Dev.: 0.0	
	EXTR/FLORISL	1 - 1	mg/kg	8	8 - 8	W	100 - 102		
				Average Recovery:			101	Std. Dev.: 1.0	
cyanazine (bladex)									
	EXTRACTS	unspec - unspecified	mg/kg	-10	30 - 30	D	-		
				Average Recovery:			0	Std. Dev.: 0.0	
	NONE	unspec - unspecified	mg/kg	0	30 - 30	D	-		
				Average Recovery:			0	Std. Dev.: 0.0	

Matrix: Vegetation

Class: Triazine Herbicides

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
atrazine	ACETONE-EXTR	1 mg/kg	8	8 W	99	Extracts of corn	196
atrazine	ACETONE-EXTR	1 mg/kg	23	8 W	99	Extracts of corn	196
atrazine	EXTR/FLORISL	1 mg/kg	23	8 W	100	Corn/Final extr. in hexane	196
atrazine	EXTR/FLORISL	1 mg/kg	8	8 W	102	Corn/Final extr. in hexane	196
cyanazine (bladex)	EXTRACTS	unspecified mg/kg	-10	30 D	0	Grain: stable,recov. unspec.	194
cyanazine (bladex)	NONE	unspecified mg/kg	0	30 D	0	Grain: stable,recov. unspec.	194

COMPOUND CLASS PROFILE

Triazine Herbicides

Waste Water:

Existing Criteria:	U.S. EPA Sampling Manual Collect in amber glass container with teflon lined cap; pH 5-9; refrigerate; extract within 7 days; analyze within 40 days of extraction.
Experimental Data:	None
Data Evaluation:	None
Data Deficiencies:	No data obtained.
Storage Recommendations:	Tentative recommendation would be extraction of samples with ethyl acetate; storage at 24°C for up to 1 year in light or follow U.S. EPA protocol of collection in amber glass container with teflon lined cap; pH 5-9; refrigerate; extract within 7 days and analyze within 40 days of extraction.

COMPOUND CLASS PROFILE

Volatile Organics - Halogenated

Air - Canister or Bag:

Existing Criteria: None

Experimental Data: Three studies. Comparison of recoveries using various storage times, concentrations and containers at 25°C with no preservation.

Data Evaluation: Analysis of the data indicates that samples are stable for up to 12 days at 25°C in either glass sample containers or polished summa canisters.

Data Deficiencies: Conditions are too varied for statistical analysis. No data obtained for majority of the compound on the list.

Storage Recommendations: Tentative recommendation - store SUMMA canisters or glass sample containers at 25°C for up to 12 days before analysis.

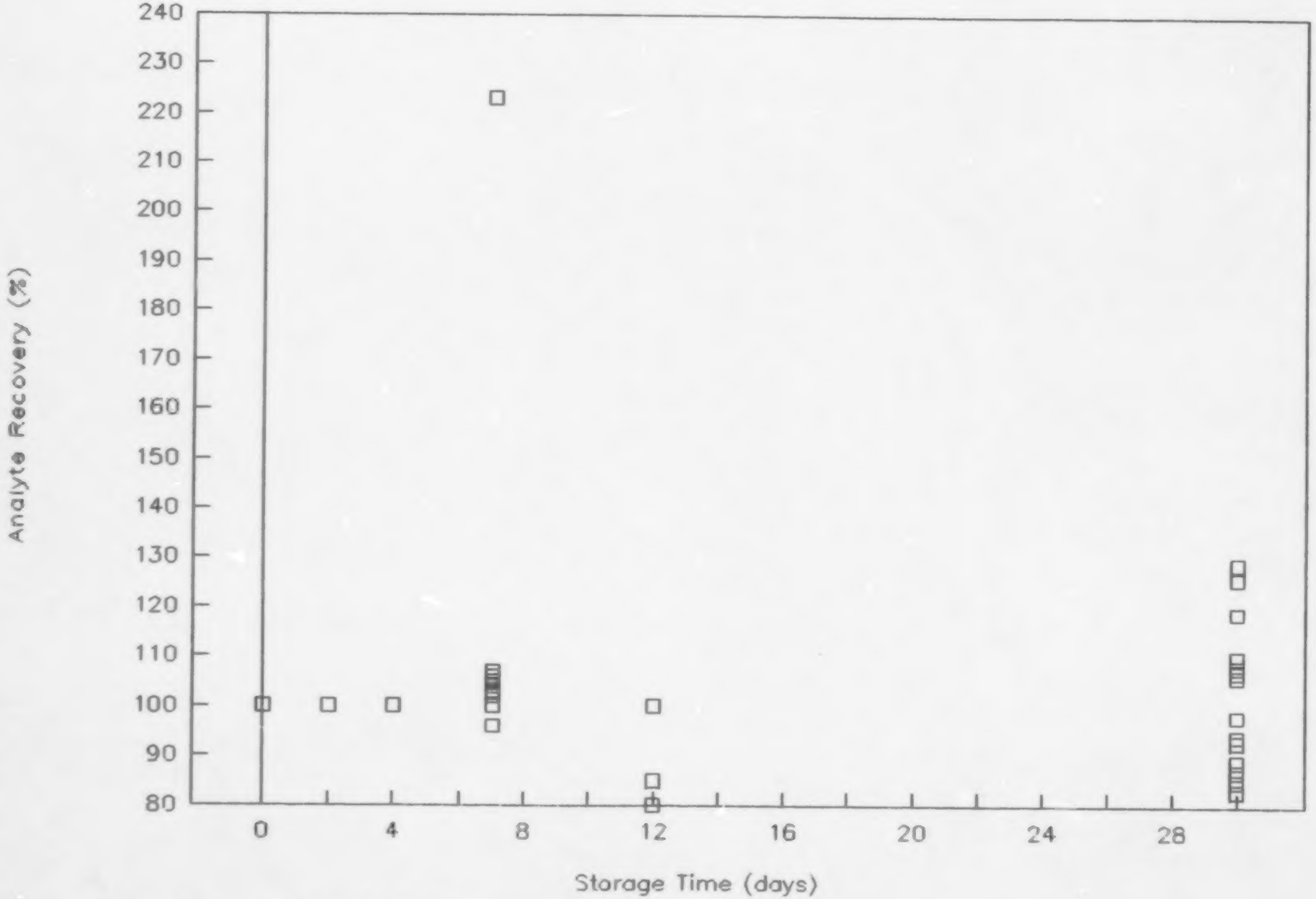
OUND CLASS: *Volatle Organics - Halogenated* **MATRIX:** *Air - Canister* **RUN DATE:** *26-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME	RECOVERY	COMMENT	REFERENCE
on tetrachloride	NONE	0.87 - 1.98	ppbv	25	7 - 30 D	83 - 129		
				Average Recovery:		100	Std. Dev.: 13.5	
chlorobenzene	NONE	0.88 - 1.34	ppbv	25	2 - 30 D	100 - 110		
				Average Recovery:		104	Std. Dev.: 3.7	
oroform	NONE	0.97 - 2.41	ppbv	25	7 - 30 D	93 - 223		
				Average Recovery:		120	Std. Dev.: 40.3	
3-chloropropene	NONE	5.3 - 5.3	ppb	25	4 - 7 D	100 - 100		
				Average Recovery:		100	Std. Dev.: 0.0	
-dichlorobenzene	NONE	3.9 - 4.3	ppb	25	4 - 7 D	100 - 100		
				Average Recovery:		100	Std. Dev.: 0.0	
1,2-dichloroethane	NONE	.93 - 5.2	ppb	25	4 - 30 D	80 - 108		
				Average Recovery:		97	Std. Dev.: 9.6	
hloromethane	NONE	1 - 7	ppb	25	4 - 12 D	80 - 100		
				Average Recovery:		93	Std. Dev.: 8.7	
1,1,2,2-tetrachloroethane	NONE	4.1 - 4.1	ppb	25	4 - 7 D	100 - 100		
				Average Recovery:		100	Std. Dev.: 0.0	
,1-trichloroethane	NONE	1 - 3	ppm	25	12 - 12 D	80 - 100		
				Average Recovery:		88	Std. Dev.: 8.5	
trichloroethylene	NONE	0.96 - 74	ppm	25	0 - 30 D	80 - 106		
				Average Recovery:		98	Std. Dev.: 8.1	

OMPOUND CLASS: *Volatle Organics - Halogenated* **MATRIX:** *Air - Canister* **RUN DATE:** *26-Oct-*

OMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME		RECOVERY	COMMENT	REFERENCE
inyl chloride									
	NONE	0.76 - 81	ppm	25	0 - 7	D	100 - 105		
				Average Recovery:			101	Std. Dev.: 2.2	

Figure A-33 Analyte Recovery with no Preservation for Volatile Organics-Halogenated in Air-Canister or Bag Matrix



Ref: ASC 8, 10, 27, 40

Matrix: Air - Canister

Class: Volatile Organics - Halogenated

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
vinyl chloride	NONE	0.76 ppbv	25	7 D	100	FID detector	10
1,2-dichloroethane	NONE	0.86 ppbv	25	7 D	107	FID detector	10
1,2-dichloroethane	NONE	0.86 ppbv	25	30 D	108	FID detector	10
carbon tetrachloride	NONE	0.87 ppt	25	30 D	83		8
chlorobenzene	NONE	0.88 ppbv	25	7 D	105	FID detector	10
chlorobenzene	NONE	0.88 ppbv	25	30 D	110	FID detector	10
chlorobenzene	NONE	0.93 ppt	25	2 D	100		8
chlorobenzene	NONE	0.93 ppb	25	4 D	100		8
chlorobenzene	NONE	0.93 ppt	25	7 D	100		8
1,2-dichloroethane	NONE	0.93 ppb	25	30 D	87		8
trichloroethylene	NONE	0.96 ppbv	25	7 D	104	FID detector	10
trichloroethylene	NONE	0.96 ppbv	25	30 D	106	FID detector	10
chlorobenzene	NONE	0.97 ppb	25	30 D	107		8
chloroform	NONE	0.97 ppb	25	30 D	94		8
1,2-dichloroethane	NONE	1 ppm	25	12 D	85		40
dichloromethane	NONE	1 ppm	25	12 D	85		40
trichloroethylene	NONE	1 ppm	25	12 D	85		40
1,1,1-trichloroethane	NONE	1 ppm	25	12 D	85		40
trichloroethylene	NONE	1 ppb	25	30 D	98		8
carbon tetrachloride	NONE	1.02 ppbv	25	7 D	96	FID detector	10
carbon tetrachloride	NONE	1.02 ppbv	25	30 D	85	FID detector	10
trichloroethylene	NONE	1.02 ppb	25	30 D	89		8
chloroform	NONE	1.04 ppbv	25	7 D	100	ECD detector	10
chloroform	NONE	1.04 ppbv	25	30 D	93	ECD detector	10
trichloroethylene	NONE	1.06 ppbv	25	7 D	102	ECD detector	10
trichloroethylene	NONE	1.06 ppbv	25	30 D	94	ECD detector	10
chloroform	NONE	1.11 ppbv	25	7 D	223	FID detector	10
chloroform	NONE	1.11 ppbv	25	30 D	119	FID detector	10
carbon tetrachloride	NONE	1.23 ppbv	25	7 D	100	ECD detector	10
carbon tetrachloride	NONE	1.23 ppbv	25	30 D	129	ECD detector	10
chloroform	NONE	1.32 ppb	25	30 D	126		8
chlorobenzene	NONE	1.34 ppbv	25	7 D	106	FID detector	10
carbon tetrachloride	NONE	1.59 ppb	25	30 D	94		8
trichloroethylene	NONE	1.73 ppbv	25	7 D	106	FID detector	10
vinyl chloride	NONE	1.76 ppbv	25	7 D	105	FID detector	10
1,2-dichloroethane	NONE	1.79 ppbv	25	7 D	104	FID detector	10
chloroform	NONE	1.88 ppbv	25	7 D	105	FID detector	10
carbon tetrachloride	NONE	1.98 ppbv	25	7 D	103	FID detector	10
carbon tetrachloride	NONE	1.98 ppbv	25	7 D	107	ECD detector	10
trichloroethylene	NONE	2.26 ppbv	25	7 D	106	ECD detector	10
chloroform	NONE	2.41 ppbv	25	7 D	103	ECD detector	10
dichloromethane	NONE	3 ppm	25	12 D	100		40
trichloroethylene	NONE	3 ppm	25	12 D	100		40
1,1,1-trichloroethane	NONE	3 ppm	25	12 D	100		40
1,2-dichloroethane	NONE	3 ppm	25	12 D	100		40
1,3-dichlorobenzene	NONE	3.9 ppb	25	4 D	100		10
1,2-dichlorobenzene	NONE	3.9 ppb	25	4 D	100		10
1,2-dichlorobenzene	NONE	3.9 ppb	25	7 D	100		10
1,3-dichlorobenzene	NONE	3.9 ppb	25	7 D	100		10

Matrix: Air - Canister

Class: Volatile Organics - Halogenated

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
1,1,2,2-tetrachloroethane	NONE	4.1 ppb	25	4 D	100		10
1,1,2,2-tetrachloroethane	NONE	4.1 ppb	25	7 D	100		10
1,4-dichlorobenzene	NONE	4.3 ppb	25	4 D	100		10
1,4-dichlorobenzene	NONE	4.3 ppb	25	7 D	100		10
1,1-dichloroethane	NONE	5.2 ppb	25	4 D	100		10
1,1-dichloroethane	NONE	5.2 ppb	25	7 D	100		10
3-chloropropene	NONE	5.3 ppb	25	4 D	100		10
3-chloropropene	NONE	5.3 ppb	25	7 D	100		10
dichloromethane	NONE	7 ppb	25	4 D	100		10
dichloromethane	NONE	7 ppb	25	7 D	100		10
vinyl chloride	NONE	7.1 ppm	25	0 D	100	special sample bottle	27
trichloroethylene	NONE	7.2 ppm	25	0 D	100	special sample bottle	27
trichloroethylene	NONE	74 ppm	25	0 D	100	special sample bottle	27
vinyl chloride	NONE	81 ppm	25	0 D	100	special sample bottle	27
dichloromethane	NONE	10100 ppm	25	12 D	80		40
1,2-dichloroethane	NONE	10100 ppm	25	12 D	80		40
1,1,1-trichloroethane	NONE	10100 ppm	25	12 D	80		40
trichloroethylene	NONE	10100 ppm	25	12 D	80		40

COMPOUND CLASS PROFILE

Volatile Organics - Halogenated

Air - Filter:

Existing Criteria: None

Experimental Data: None

Data Evaluation: None

Data Deficiencies: No data obtained

Storage Recommendations: Tentative recommendation - store filters at -20°C under air-argon gas mixture. Samples are stable for at least 2 years or store sealed samples at 4°C for up to 6 days before analysis.

COMPOUND CLASS PROFILE

Volatile Organics - Halogenated

Air - Sorbent Trap:

Existing Criteria: None

Experimental Data: None

Data Evaluation: None

Data Deficiencies: No data obtained

Storage Recommendations: Tentative recommendation - follow U.S. E.P.A. protocol of sampling with distributed air volume sets. Sample tubes are sealed; refrigerated; analysis to be completed between 7 and 30 days after sampling.

COMPOUND CLASS PROFILE

Volatile Organics - Halogenated

Drinking/Surface Water:

Existing Criteria:	U.S. EPA Sampling Manual Collect in amber glass container with teflon lined septum; 0.008% $Na_2S_2O_3$; refrigerate; analyze within 14 days.
Experimental Data:	3 Studies, major study involved the comparison of preservation with ascorbic acid or thiosulphate to no preservation at 4°C and 20°C at the 1-500 ug/L level.
Data Evaluation:	Statistical evaluation of preservation with ascorbic acid vs thiosulphate, and no preservation demonstrate that the most stable and consistent result is preservation with thiosulphate and storage at 4°C for 1 week.
Data Deficiencies:	No data obtained for majority of compounds on list.
Storage Recommendations:	Follow U.S. EPA protocol of collection in an amber glass container with teflon lined septum; add 0.008% $Na_2S_2O_3$; refrigerate; complete analysis within 14 days.

COMPOUND CLASS: *Volatle Organics - Halogenated* **MATRIX:** *Drinking/Surface Water* **RUN DATE:** *13-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME		RECOVERY	COMMENT	REFERENCE
bromoform									
	ASCORB. ACID	1 - <1	ug/L	4	1 - 1	W	87 - 100		
				Average Recovery:			96	Std. Dev.: 4.4	
	NONE	1 - <1	ug/L	4	1 - 56	W	100 - 117		
				Average Recovery:			105	Std. Dev.: 5.7	
	THIOSULPHATE	1 - <1	ug/L	20	1 - 1	W	100 - 105		
				Average Recovery:			103	Std. Dev.: 2.4	
bromomethane									
	NONE	50 & 5 - 50 & 500	ug/L	25	34 - 56	D	85 - 100		
				Average Recovery:			95	Std. Dev.: 7.1	
carbon tetrachloride									
	NONE	50 & 5 - 50 & 500	ug/L	25	56 - 56	D	100 - 100		
				Average Recovery:			100	Std. Dev.: 0.0	
chlorobenzene									
	CHLOROFORM	50-100 - 50-1000	ng/L	4	3 - 3	W	80 - 80		
				Average Recovery:			80	Std. Dev.: 0.0	
	NONE	50 & 5 - 50 & 500	ug/L	4	34 - 56	D	96 - 100		
				Average Recovery:			99	Std. Dev.: 1.9	
chlorodibromomethane									
	ASCORB. ACID	10 - 82	ug/L	20	1 - 1	W	88 - 100		
				Average Recovery:			95	Std. Dev.: 4.2	
	NONE	10 - 82	ug/L	4	1 - 1	W	104 - 140		
				Average Recovery:			116	Std. Dev.: 12.8	
	THIOSULPHATE	10 - 82	ug/L	20	1 - 1	W	100 - 104		
				Average Recovery:			101	Std. Dev.: 1.8	
chloroform									
	ASCORB. ACID	137 - 18	ug/L	20	1 - 1	W	98 - 107		
				Average Recovery:			103	Std. Dev.: 3.1	
	NONE	137 - 50 & 500	ug/L	25	1 - 56	D	100 - 142		
				Average Recovery:			117	Std. Dev.: 13.7	
	THIOSULPHATE	137 - 18	ug/L	20	1 - 1	W	105 - 131		
				Average Recovery:			116	Std. Dev.: 10.7	

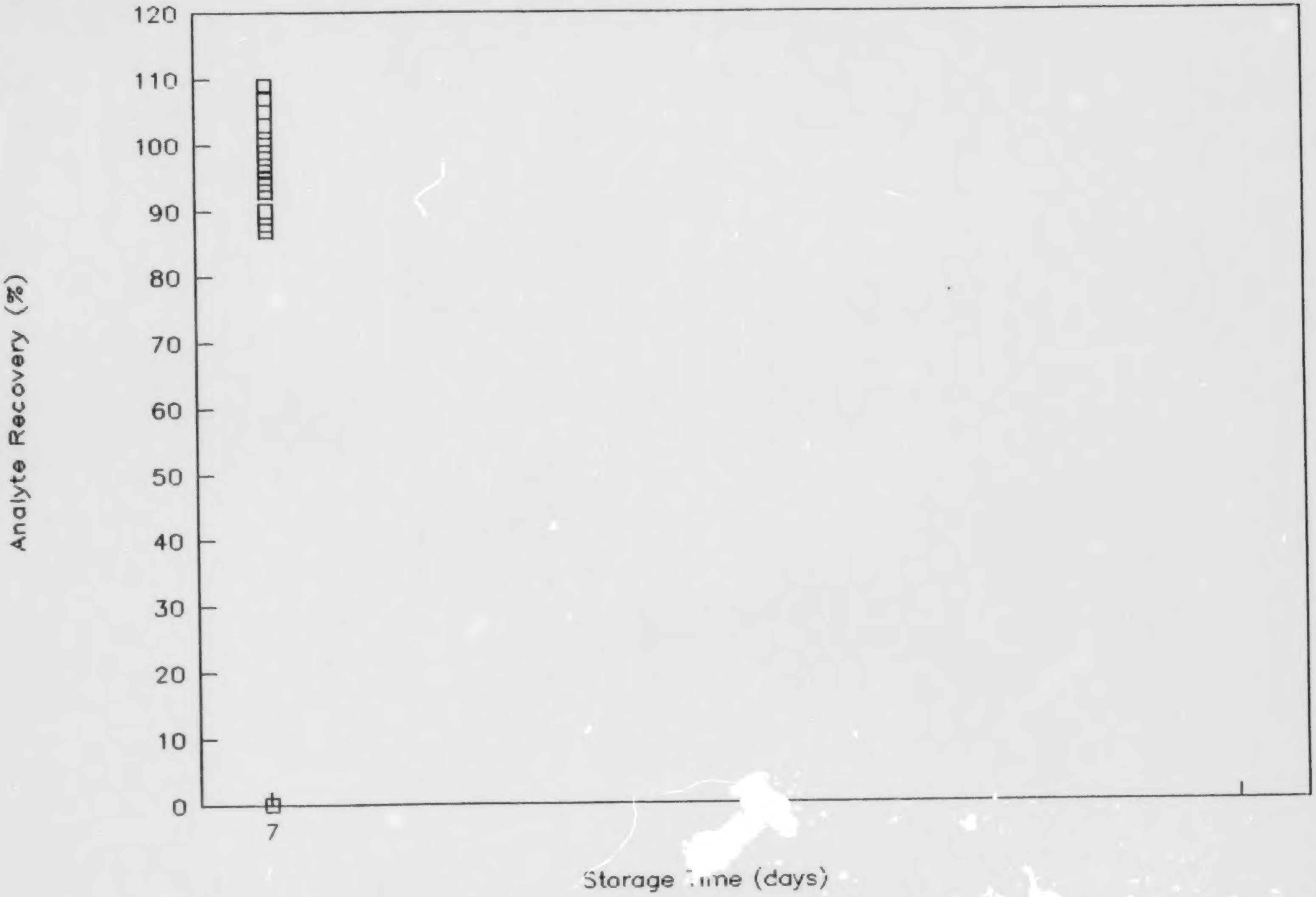
COMPOUND CLASS: *Volatle Organics - Halogenated* MATRIX: *Drinking/Surface Water* RUN DATE: *13-Oct-8*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME		RECOVERY	COMMENT	REFERENCE
chloroform									
1.2-dichlorobenzene									
	PH=2	20 - 20	ug/L	4	0 - 14	D	63 - 110		
				Average Recovery:			33	Std. Dev.: 18.5	
	PH=7	20 - 20	ug/L	4	0 - 21	D	30 - 105		
				Average Recovery:			61	Std. Dev.: 21.0	
	PH=9	20 - 20	ug/L	4	0 - 14	D	65 - 112		
				Average Recovery:			90	Std. Dev.: 15.6	
dichlorobromomethane									
	ASCORB. ACID	102 - 61	ug/L	20	1 - 1	W	96 - 109		
				Average Recovery:			101	Std. Dev.: 4.4	
	NONE	102 - 61	ug/L	4	1 - 34	W	102 - 163		
				Average Recovery:			115	Std. Dev.: 18.7	
	THIOSULPHATE	102 - 61	ug/L	20	1 - 1	W	100 - 107		
				Average Recovery:			103	Std. Dev.: 2.7	
1.1-dichloroethane									
	NONE	50 & 5 - 50 & 500	ug/L	4	56 - 56	D	100 - 100		
				Average Recovery:			100	Std. Dev.: 0.0	
1.1-dichloroethylene									
	NONE	50 & 5 - 50 & 500	ug/L	25	56 - 56	D	100 - 100		
				Average Recovery:			100	Std. Dev.: 0.0	
1.2-dichloropropane									
	NONE	50 & 5 - 50 & 500	ug/L	4	11 - 56	D	100 - 109		
				Average Recovery:			103	Std. Dev.: 4.2	
1.1.2.2-tetrachloroethane									
	NONE	50 & 5 - 50 & 500	ug/L	25	3 - 3	D	-		
				Average Recovery:			0	Std. Dev.: 0.0	
1.1.1-trichloroethane									
	NONE	50 & 5 - 50 & 500	ug/L	4	56 - 56	D	100 - 100		
				Average Recovery:			100	Std. Dev.: 0.0	

COMPOUND CLASS: *Volatle Organics - Halogenated* **MATRIX:** *Drinking/Surface Water* **RUN DATE:** *13-Oct-89*

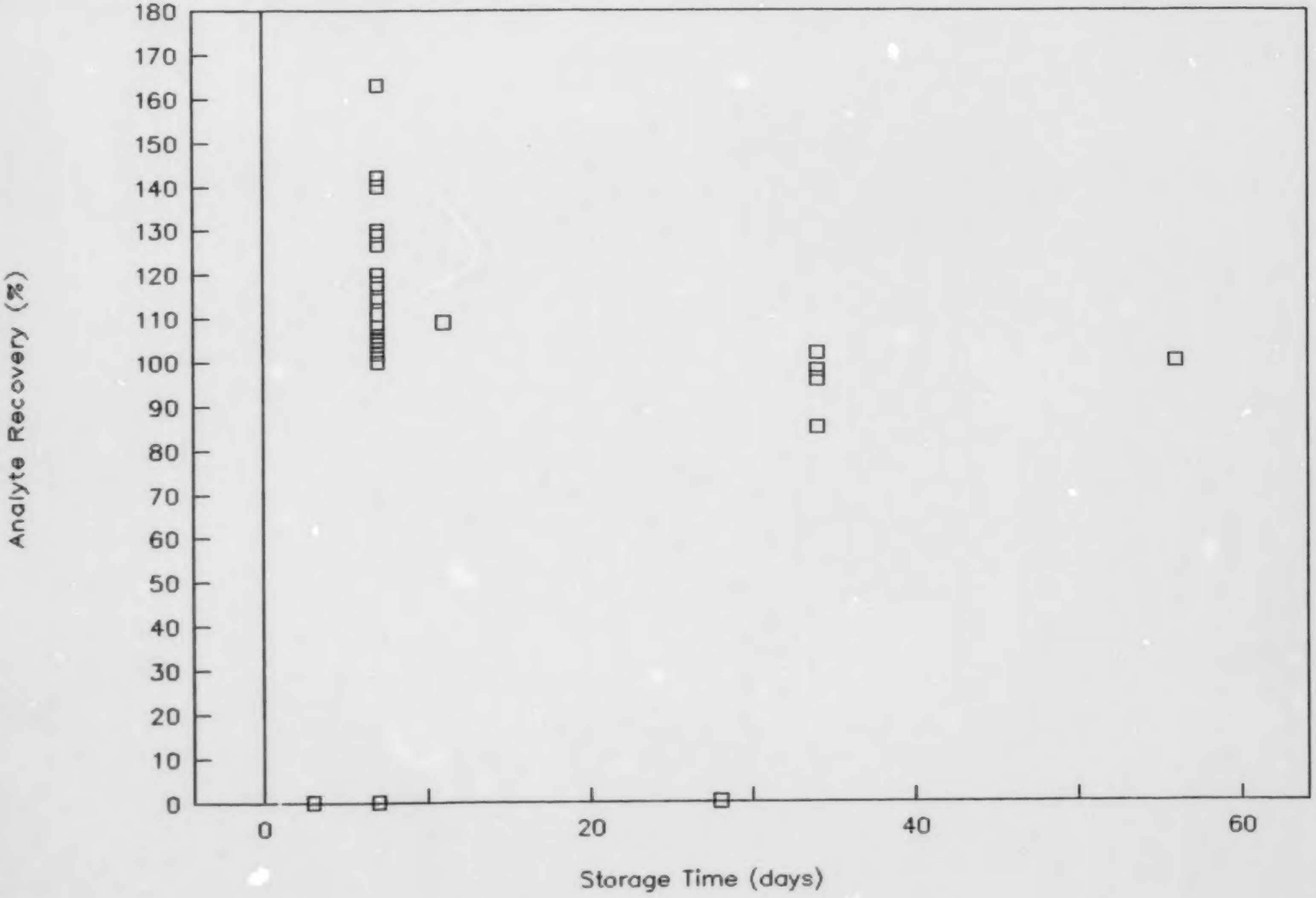
COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME		RECOVERY	COMMENT	REFERENCE
1.1.2-trichloroethane									
	NONE	50 & 5 - 50 & 500	ug/L	25	28 - 28	D	-		
				Average Recovery:			0	Std. Dev.: 0.0	
vinyl chloride									
	NONE	-		4	34 - 34	D	98 - 98		
				Average Recovery:			98	Std. Dev.: 0.0	

Figure A-34 Analyte Recovery with Ascorbic Acid Preservation for Volatile Organics-Halogenated in Drinking/Surface Water Matrix



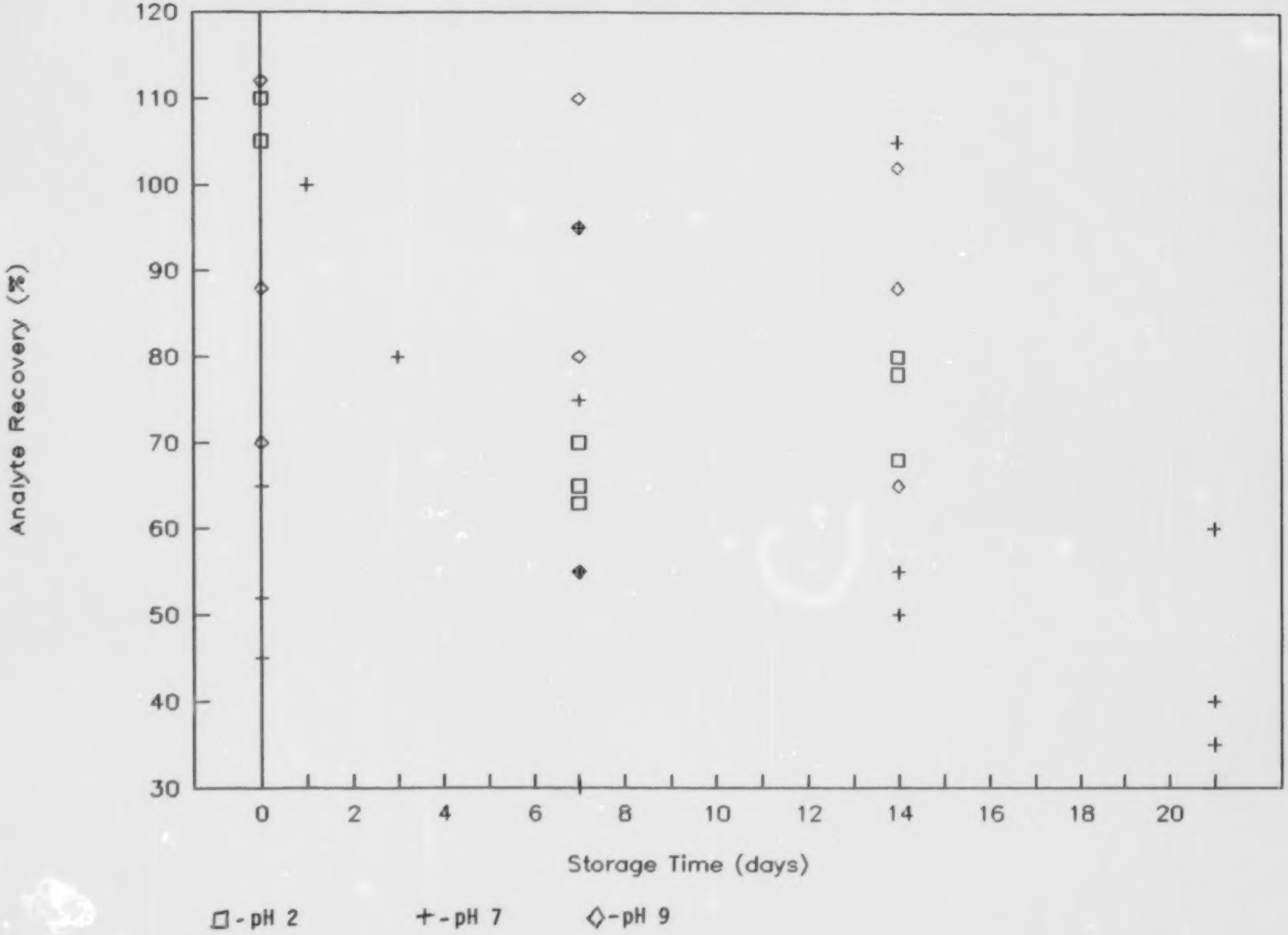
Ref: ASC 85

Figure A-35 Analyte Recovery with no Preservation for Volatile Organics-Halogenated in Drinking/Surface Water Matrix



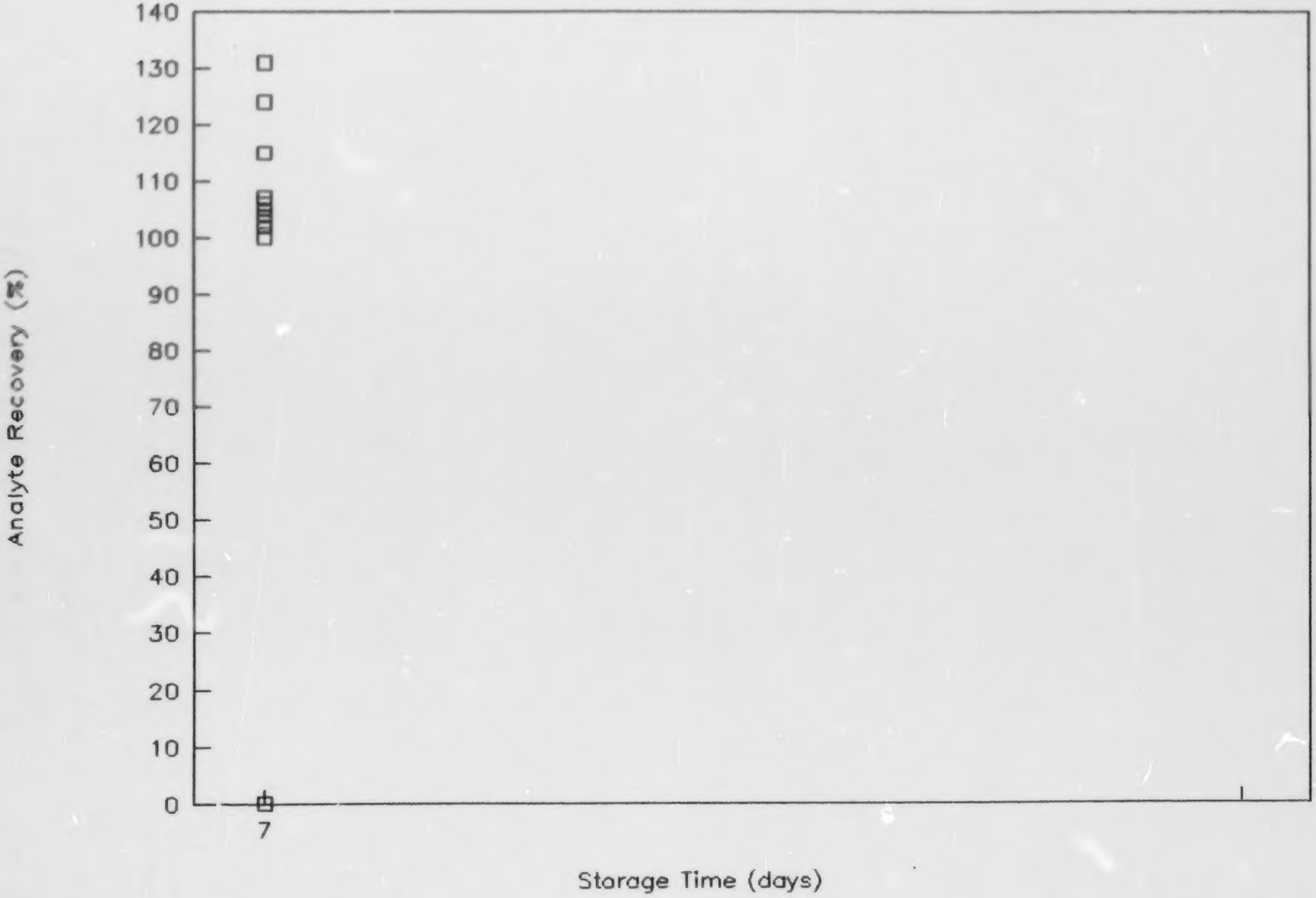
Ref: ASC 9, 77, 85

Figure A-36 Analyte Recovery at Different pH for Volatile Organics-Halogenated in Drinking/Surface Water Matrix



Ref: ASC 302

Figure A-37 Analyte Recovery with Thiosulphate Preservation for Volatile Organics-Halogenated in Drinking/Surface Water Matrix



Ref: ASC 85

Matrix: Water Class: Volatile Organics - Halogenated

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
bromoform		50 & 500 ug/L	4	56 D	100		77
bromoform		50 & 500 ug/L	25	56 D	100		77
bromoform	ASCORB. ACID	1 ug/L	4	1 W	100		85
bromoform	ASCORB. ACID	1 ug/L	20	1 W	100		85
bromoform	ASCORB. ACID	179 ug/L	4	1 W	97		85
bromoform	ASCORB. ACID	179 ug/L	20	1 W	96		85
bromoform	ASCORB. ACID	38 ug/L	20	1 W	97		85
bromoform	ASCORB. ACID	38 ug/L	4	1 W	95		85
bromoform	ASCORB. ACID	<1 ug/L	20	1 W	0		85
bromoform	ASCORB. ACID	<1 ug/L	4	1 W	0		85
bromoform	NONE	1 ug/L	20	1 W	100		85
bromoform	NONE	1 ug/L	4	1 W	100		85
bromoform	NONE	179 ug/L	4	1 W	108		85
bromoform	NONE	179 ug/L	20	1 W	117		85
bromoform	NONE	38 ug/L	4	1 W	105		85
bromoform	NONE	38 ug/L	20	1 W	108		85
bromoform	NONE	<1 ug/L	20	1 W	0		85
bromoform	NONE	<1 ug/L	4	1 W	0		85
bromoform	THIOSULPHATE	1 ug/L	4	1 W	100		85
bromoform	THIOSULPHATE	1 ug/L	20	1 W	100		85
bromoform	THIOSULPHATE	179 ug/L	4	1 W	105		85
bromoform	THIOSULPHATE	179 ug/L	20	1 W	105		85
bromoform	THIOSULPHATE	38 ug/L	4	1 W	105		85
bromoform	THIOSULPHATE	38 ug/L	20	1 W	105		85
bromoform	THIOSULPHATE	<1 ug/L	20	1 W	0		85
bromoform	THIOSULPHATE	<1 ug/L	4	1 W	0		85
bromomethane		50 & 500 ug/L	4	56 D	100		77
bromomethane		50 & 500 ug/L	25	56 D	100		77
bromomethane	NONE		4	34 D	85	org. free H2O, not bio. active	9
carbon tetrachloride		50 & 500 ug/L	25	56 D	100		77
carbon tetrachloride		50 & 500 ug/L	4	56 D	100		77
chlorobenzene		50 & 500 ug/L	4	56 D	100		77
chlorobenzene		50 & 500 ug/L	25	56 D	100		77
chlorobenzene	CHLOROFORM	50-1000 ng/L	4	3 W	80	no continuous decline	217
chlorobenzene	NONE		4	34 D	96	org. free H2O, not bio. active	9
chlorodibromomethane	ASCORB. ACID	10 ug/L	20	1 W	90		85
chlorodibromomethane	ASCORB. ACID	10 ug/L	4	1 W	100		85
chlorodibromomethane	ASCORB. ACID	105 ug/L	4	1 W	98		85
chlorodibromomethane	ASCORB. ACID	105 ug/L	20	1 W	96		85
chlorodibromomethane	ASCORB. ACID	28 ug/L	4	1 W	100		85
chlorodibromomethane	ASCORB. ACID	28 ug/L	20	1 W	93		85
chlorodibromomethane	ASCORB. ACID	82 ug/L	20	1 W	88		85
chlorodibromomethane	ASCORB. ACID	82 ug/L	4	1 W	94		85
chlorodibromomethane	NONE	10 ug/L	20	1 W	130		85
chlorodibromomethane	NONE	10 ug/L	4	1 W	120		85
chlorodibromomethane	NONE	105 ug/L	20	1 W	140		85
chlorodibromomethane	NONE	105 ug/L	4	1 W	117		85
chlorodibromomethane	NONE	28 ug/L	4	1 W	104		85
chlorodibromomethane	NONE	28 ug/L	20	1 W	104		85

Matrix: Water Class: Volatile Organics - Halogenated

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
chlorodibromomethane	NONE	82 ug/L	20	1 W	106		85
chlorodibromomethane	NONE	82 ug/L	4	1 W	104		85
chlorodibromomethane	THIOSULPHATE	10 ug/L	4	1 W	100		85
chlorodibromomethane	THIOSULPHATE	10 ug/L	20	1 W	100		85
chlorodibromomethane	THIOSULPHATE	105 ug/L	20	1 W	100		85
chlorodibromomethane	THIOSULPHATE	105 ug/L	4	1 W	103		85
chlorodibromomethane	THIOSULPHATE	28 ug/L	20	1 W	100		85
chlorodibromomethane	THIOSULPHATE	28 ug/L	4	1 W	104		85
chlorodibromomethane	THIOSULPHATE	82 ug/L	20	1 W	100		85
chlorodibromomethane	THIOSULPHATE	82 ug/L	4	1 W	104		85
chloroform		50 & 500 ug/L	25	56 D	100		77
chloroform		50 & 500 ug/L	4	56 D	100		77
chloroform	ASCORB. ACID	137 ug/L	20	1 W	101		85
chloroform	ASCORB. ACID	137 ug/L	4	1 W	103		85
chloroform	ASCORB. ACID	14 ug/L	20	1 W	107		85
chloroform	ASCORB. ACID	14 ug/L	4	1 W	107		85
chloroform	ASCORB. ACID	145 ug/L	20	1 W	98		85
chloroform	ASCORB. ACID	145 ug/L	4	1 W	101		85
chloroform	ASCORB. ACID	18 ug/L	4	1 W	105		85
chloroform	ASCORB. ACID	18 ug/L	20	1 W	100		85
chloroform	NONE	137 ug/L	20	1 W	127		85
chloroform	NONE	137 ug/L	4	1 W	130		85
chloroform	NONE	14 ug/L	20	1 W	142		85
chloroform	NONE	14 ug/L	4	1 W	114		85
chloroform	NONE	145 ug/L	20	1 W	127		85
chloroform	NONE	145 ug/L	4	1 W	118		85
chloroform	NONE	18 ug/L	4	1 W	105		85
chloroform	NONE	18 ug/L	20	1 W	105		85
chloroform	THIOSULPHATE	137 ug/L	20	1 W	131		85
chloroform	THIOSULPHATE	137 ug/L	4	1 W	124		85
chloroform	THIOSULPHATE	14 ug/L	4	1 W	107		85
chloroform	THIOSULPHATE	14 ug/L	20	1 W	107		85
chloroform	THIOSULPHATE	145 ug/L	4	1 W	115		85
chloroform	THIOSULPHATE	145 ug/L	20	1 W	131		85
chloroform	THIOSULPHATE	18 ug/L	20	1 W	105		85
chloroform	THIOSULPHATE	18 ug/L	4	1 W	105		85
1,2-dichlorobenzene	PH=2	20 ug/L	4	0 D	110		302
1,3-dichlorobenzene	PH=2	20 ug/L	4	0 D	105		302
1,4-dichlorobenzene	PH=2	20 ug/L	4	0 D	110		302
1,4-dichlorobenzene	PH=2	20 ug/L	4	7 D	65		302
1,3-dichlorobenzene	PH=2	20 ug/L	4	7 D	63		302
1,2-dichlorobenzene	PH=2	20 ug/L	4	7 D	70		302
1,2-dichlorobenzene	PH=2	20 ug/L	4	14 D	80		302
1,4-dichlorobenzene	PH=2	20 ug/L	4	14 D	78		302
1,3-dichlorobenzene	PH=2	20 ug/L	4	14 D	68		302
1,4-dichlorobenzene	PH=7	20 ug/L	4	0 D	105		302
1,3-dichlorobenzene	PH=7	20 ug/L	4	0 D	95		302
1,2-dichlorobenzene	PH=7	20 ug/L	4	0 D	100		302
1,2-dichlorobenzene	PH=7	20 ug/L	4	1 D	80		302

Matrix: Water Class: Volatile Organics - Halogenated

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
1,3-dichlorobenzene	PH=7	20 ug/L	4	1 D	65		302
1,4-dichlorobenzene	PH=7	20 ug/L	4	1 D	75		302
1,4-dichlorobenzene	PH=7	20 ug/L	4	3 D	55		302
1,3-dichlorobenzene	PH=7	20 ug/L	4	3 D	45		302
1,2-dichlorobenzene	PH=7	20 ug/L	4	3 D	52		302
1,2-dichlorobenzene	PH=7	20 ug/L	4	7 D	60		302
1,3-dichlorobenzene	PH=7	20 ug/L	4	7 D	50		302
1,4-dichlorobenzene	PH=7	20 ug/L	4	7 D	55		302
1,3-dichlorobenzene	PH=7	20 ug/L	4	14 D	52		302
1,4-dichlorobenzene	PH=7	20 ug/L	4	14 D	40		302
1,2-dichlorobenzene	PH=7	20 ug/L	4	14 D	35		302
1,2-dichlorobenzene	PH=7	20 ug/L	4	21 D	55		302
1,4-dichlorobenzene	PH=7	20 ug/L	4	21 D	55		302
1,3-dichlorobenzene	PH=7	20 ug/L	4	21 D	30		302
1,3-dichlorobenzene	PH=9	20 ug/L	4	0 D	102		302
1,4-dichlorobenzene	PH=9	20 ug/L	4	0 D	112		302
1,2-dichlorobenzene	PH=9	20 ug/L	4	0 D	110		302
1,3-dichlorobenzene	PH=9	20 ug/L	4	7 D	68		302
1,2-dichlorobenzene	PH=9	20 ug/L	4	7 D	95		302
1,4-dichlorobenzene	PH=9	20 ug/L	4	7 D	88		302
1,3-dichlorobenzene	PH=9	20 ug/L	4	14 D	65		302
1,4-dichlorobenzene	PH=9	20 ug/L	4	14 D	70		302
1,2-dichlorobenzene	PH=9	20 ug/L	4	14 D	80		302
dichlorobromomethane	ASCORB. ACID	102 ug/L	20	1 W	96		85
dichlorobromomethane	ASCORB. ACID	102 ug/L	4	1 W	100		85
dichlorobromomethane	ASCORB. ACID	35 ug/L	20	1 W	103		85
dichlorobromomethane	ASCORB. ACID	35 ug/L	4	1 W	109		85
dichlorobromomethane	ASCORB. ACID	44 ug/L	4	1 W	100		85
dichlorobromomethane	ASCORB. ACID	44 ug/L	20	1 W	96		85
dichlorobromomethane	ASCORB. ACID	61 ug/L	4	1 W	105		85
dichlorobromomethane	ASCORB. ACID	61 ug/L	20	1 W	97		85
dichlorobromomethane	NONE		4	34 D	102	org. free H2O, not bio. active	9
dichlorobromomethane	NONE	102 ug/L	4	1 W	106		85
dichlorobromomethane	NONE	102 ug/L	20	1 W	104		85
dichlorobromomethane	NONE	35 ug/L	4	1 W	129		85
dichlorobromomethane	NONE	35 ug/L	20	1 W	163		85
dichlorobromomethane	NONE	44 ug/L	20	1 W	102		85
dichlorobromomethane	NONE	44 ug/L	4	1 W	105		85
dichlorobromomethane	NONE	61 ug/L	20	1 W	111		85
dichlorobromomethane	NONE	61 ug/L	4	1 W	115		85
dichlorobromomethane	THIOSULPHATE	102 ug/L	4	1 W	106		85
dichlorobromomethane	THIOSULPHATE	102 ug/L	20	1 W	100		85
dichlorobromomethane	THIOSULPHATE	35 ug/L	20	1 W	100		85
dichlorobromomethane	THIOSULPHATE	35 ug/L	4	1 W	103		85
dichlorobromomethane	THIOSULPHATE	44 ug/L	20	1 W	100		85
dichlorobromomethane	THIOSULPHATE	44 ug/L	4	1 W	107		85
dichlorobromomethane	THIOSULPHATE	61 ug/L	4	1 W	105		85
dichlorobromomethane	THIOSULPHATE	61 ug/L	20	1 W	102		85
1,1-dichloroethane		50 & 500 ug/L	4	56 D	100		77

Matrix: Water

Class: Volatile Organics - Halogenated

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
1,1-dichloroethane		50 & 500 ug/L	25	56 D	100		77
1,1-dichloroethylene		50 & 500 ug/L	25	56 D	100		77
1,1-dichloroethylene		50 & 500 ug/L	4	56 D	100		77
1,2-dichloropropane		50 & 500 ug/L	25	56 D	100		77
1,2-dichloropropane		50 & 500 ug/L	4	56 D	100		77
1,2-dichloropropane	NONE		4	11 D	109	rapid decrease after 11 days	9
1,1,2,2-tetrachloroethane		50 & 500 ug/L	25	3 D	0	significant losses	77
1,1,1-trichloroethane		50 & 500 ug/L	25	56 D	100		77
1,1,1-trichloroethane		50 & 500 ug/L	4	56 D	100		77
1,1,2-trichloroethane		50 & 500 ug/L	25	28 D	0	significant losses	77
vinyl chloride	NONE		4	34 D	98	org. free H2O, not bio. active	9

COMPOUND CLASS PROFILE

Volatile Organics - Halogenated

Sediment:

Existing Criteria:	None
Experimental Data:	One study. Comparison of recoveries at 4°C and 25°C at the 250-2500 ug/kg level with no preservation.
Data Evaluation:	Analysis of the data indicates that recoveries are equal at either temperature for at least 56 days.
Data Deficiencies:	Limited data obtained, no statistical analysis possible. No data obtained for majority of compounds on list.
Storage Recommendations:	Tentative recommendation - store samples at 4°C for up to 56 days before analysis with no preservation.

COMPOUND CLASS: *Volatle Organics - Halogenated* MATRIX: *Sediment* RUN DATE: *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME	RECOVERY	COMMENT	REFERENCE
bromoform		250 & - 250 & 2500	ug/kg	4	56 - 56 D	100 - 100		
				Average Recovery:		100	Std. Dev.: 0.0	
bromomethane		250 & - 250 & 2500	ug/kg	25	56 - 56 D	100 - 100		
				Average Recovery:		100	Std. Dev.: 0.0	
carbon tetrachloride		250 & - 250 & 2500	ug/kg	25	56 - 56 D	100 - 100		
				Average Recovery:		100	Std. Dev.: 0.0	
chlorobenzene		250 & - 250 & 2500	ug/kg	4	56 - 56 D	100 - 100		
				Average Recovery:		100	Std. Dev.: 0.0	
chloroform		250 & - 250 & 2500	ug/kg	25	56 - 56 D	100 - 100		
				Average Recovery:		100	Std. Dev.: 0.0	
1,1-dichloroethane		250 & - 250 & 2500	ug/kg	4	56 - 56 D	100 - 100		
				Average Recovery:		100	Std. Dev.: 0.0	
1,1-dichloroethylene		250 & - 250 & 2500	ug/kg	4	56 - 56 D	100 - 100		
				Average Recovery:		100	Std. Dev.: 0.0	
1,2-dichloropropane		250 & - 250 & 2500	ug/kg	4	56 - 56 D	100 - 100		
				Average Recovery:		100	Std. Dev.: 0.0	
1,1,1-trichloroethane		250 & - 250 & 2500	ug/kg	4	56 - 56 D	100 - 100		
				Average Recovery:		100	Std. Dev.: 0.0	

Matrix: Sediment

Class: Volatile Organics - Halogenated

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
bromoform	SED	250 & 2500 ug/kg	25	56 D	100		77
bromoform	SED	250 & 2500 ug/kg	4	56 D	100		77
bromomethane	SED	250 & 2500 ug/kg	4	56 D	100		77
bromomethane	SED	250 & 2500 ug/kg	25	56 D	100		77
carbon tetrachloride	SED	250 & 2500 ug/kg	4	56 D	100		77
carbon tetrachloride	SED	250 & 2500 ug/kg	25	56 D	100		77
chlorobenzene	SED	250 & 2500 ug/kg	25	56 D	100		77
chlorobenzene	SED	250 & 2500 ug/kg	4	56 D	100		77
chloroform	SED	250 & 2500 ug/kg	4	56 D	100		77
chloroform	SED	250 & 2500 ug/kg	25	56 D	100		77
1,1-dichloroethane	SED	250 & 2500 ug/kg	25	56 D	100		77
1,1-dichloroethane	SED	250 & 2500 ug/kg	4	56 D	100		77
1,1-dichloroethylene	SED	250 & 2500 ug/kg	25	56 D	100		77
1,1-dichloroethylene	SED	250 & 2500 ug/kg	4	56 D	100		77
1,2-dichloropropane	SED	250 & 2500 ug/kg	25	56 D	100		77
1,2-dichloropropane	SED	250 & 2500 ug/kg	4	56 D	100		77
1,1,1-trichloroethane	SED	250 & 2500 ug/kg	25	56 D	100		77
1,1,1-trichloroethane	SED	250 & 2500 ug/kg	4	56 D	100		77

COMPOUND CLASS PROFILE

Volatile Organics - Halogenated

Waste Water:

Existing Criteria:	U.S. EPA Sampling Manual Collect in amber glass container with teflon lined septum; 0.008% $Na_2S_2O_3$; refrigerate; analyze within 14 days.
Experimental Data:	One study with insufficient data for analysis.
Data Evaluation:	Data conflicts with drinking/water study due to different experimental conditions.
Data Deficiencies:	Study is flawed as samples were kept in open containers. No or insufficient data for majority of compounds on list.
Storage Recommendations:	Tentative recommendation - follow U.S. EPA protocol of collection in an amber glass container with teflon lined septum; add 0.008% $Na_2S_2O_3$; refrigerate; complete analysis within 14 days.

COMPOUND CLASS: *Volatle Organics - Halogenated* **MATRIX:** *Wastewater* **RUN DATE:** *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME		RECOVERY	COMMENT	REFERENCE
chloroform									
	NONE	250 - 250	ug/L	4.5	1 - 1	D	56 - 56		
				Average Recovery:			56	Std. Dev.: 0.0	
1,2-dichlorobenzene									
	NONE	250 - 250	ug/L	6.0	1 - 1	D	49 - 49		
				Average Recovery:			49	Std. Dev.: 0.0	

Matrix: Waste Water Class: Volatile Organics - Halogenated

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
chloroform		250 ug/L	4.5	1 D	56	Open container - air losses	78
1,2-dichlorobenzene		250 ug/L	6	1 D	49	Open container - air losses	78

COMPOUND CLASS PROFILE

Volatile Organics - Non-halogenated

Air - Canister or Bag:

Existing Criteria:	None
Experimental Data:	Numerous studies. Comparison of recoveries using various storage times, concentrations and containers at 25°C with no preservation.
Data Evaluation:	Analysis of the data indicates that samples are stable for up to 12 days at 25°C with polished summa canisters or glass sample containers.
Data Deficiencies:	Conditions are too varied for statistical analysis. No data obtained for majority of the compounds on the list.
Storage Recommendations:	Tentative recommendation - store SUMMA canisters or glass sample containers at 25°C for up to 12 days before analysis.

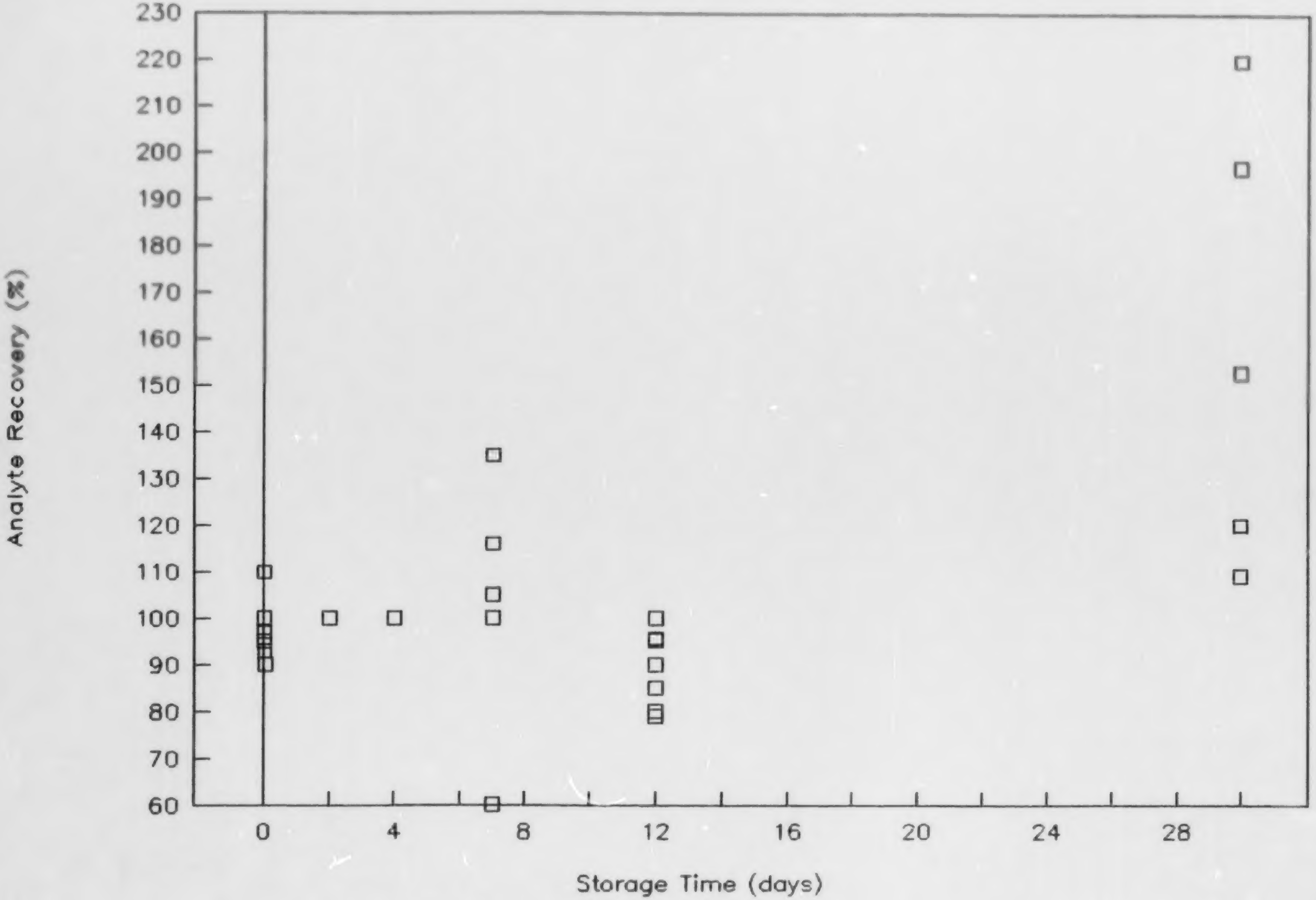
COMPOUND CLASS: *Volatile Organics - Non-halogenated* **MATRIX:** *AIr - Canister* **RUN DATE:** *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME		RECOVERY	COMMENT	REFERENCE
benzene	NONE	0.31 - 85	ppm	25	0 - 30	D	79 - 197		
				Average Recovery:			104	**Std. Dev.:** 28.7	
ethylbenzene	NONE	3.6 - 3.6	ppb	25	4 - 7	D	100 - 100		
				Average Recovery:			100	**Std. Dev.:** 0.0	
ethylene		10 - 10	ul/l	25	0 - 60		90 - 100		
				Average Recovery:			95	**Std. Dev.:** 3.4	
hexane	NONE	103 - 9.4	ppm	25	0 - 0	D	100 - 110		
				Average Recovery:			105	**Std. Dev.:** 5.0	
methane	NONE	15 - 8	ppm	25	0 - 2	D	100 - 100		
				Average Recovery:			100	**Std. Dev.:** 0.0	
propane	NONE	2.62 - 2.62	ppbv	25	7 - 7	D	105 - 105		
				Average Recovery:			105	**Std. Dev.:** 0.0	
styrene	NONE	1.8 - 4.1	ppb	25	4 - 12	D	95 - 100		
				Average Recovery:			98	**Std. Dev.:** 2.2	
toluene	NONE	0.46 - 80	ppm	25	0 - 30	D	79 - 220		
				Average Recovery:			113	**Std. Dev.:** 41.5	
1,3,5-trimethylbenzene	NONE	3.2 - 3.2	ppb	25	4 - 7	D	100 - 100		
				Average Recovery:			100	**Std. Dev.:** 0.0	
o-xylene	NONE	0.15 - 0.15	ppbv	25	7 - 30	D	60 - 153		
				Average Recovery:			107	**Std. Dev.:** 46.5	

COMPOUND CLASS: *Volatile Organics - Non-halogenated* MATRIX: *Air - Canister* RUN DATE: *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME		RECOVERY	COMMENT	REFERENCE
m-xylene									
	NONE	3.8 - 3.8	ppb	25	4 - 7	D	100 - 100		
				Average Recovery:			100	Std. Dev.: 0.0	
p-xylene									
	NONE	1 - 3.8	ppb	25	4 - 12	D	80 - 100		
				Average Recovery:			93	Std. Dev.: 8.7	

Figure A-38 Analyte Recovery with no Preservation for Volatile Organics-Non-Halogenated in Air-Canister or Bag Matrix



Ref: ASC 8, 10, 27, 40, 65, 101

Matrix: Air - Canister Class: Volatile Organics - Non-Halogenated

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
benzene		0.31 ppbv	25	7 D	116	FID detector	10
benzene		0.31 ppbv	25	30 D	197	FID detector	10
benzene		0.61 ppb	25	30 D	109		8
benzene		1 ppm	25	12 D	85		40
benzene		10100 ppm	25	12 D	80		40
benzene		2.4 ppm	25	12 D	95.7		40
benzene		2.7-9.8ppm	25	12 D	79		40
benzene		3 ppm	25	12 D	100		40
benzene		4.4-10.ppm	25	12 D	90		40
benzene		4.8 ppb	25	4 D	100		10
benzene		4.8 ppb	25	7 D	100		10
benzene		7.8 ppm	25	0 D	100	special sample bottle	27
benzene		85 ppm	25	0 D	100	special sample bottle	27
ethylbenzene		3.6 ppb	25	4 D	100		10
ethylbenzene		3.6 ppb	25	7 D	100		10
ethylene		10 ul/l	25	0	100	time in minutes, syringes	101
ethylene		10 ul/l	25	10	95	time in minutes, syringes	101
ethylene		10 ul/l	25	20	97	time in minutes, syringes	101
ethylene		10 ul/l	25	30	93	time in minutes, syringes	101
ethylene		10 ul/l	25	60	90	time in minutes, syringes	101
hexane		103 ppm	25	0 D	100	special sample bottle	27
hexane		9.4 ppm	25	0 D	110	special sample bottle	27
methane		15 mg/L	25	2 D	100	special bottle	65
methane		4 mg/L	25	2 D	100	special bottle	65
methane		72 ppm	25	0 D	100	special sample bottle	27
methane		8 ppm	25	0 D	100	special sample bottle	27
propane		2.62 ppbv	25	7 D	105	FID detector	10
styrene		1.8 ppm	25	12 D	95.4		40
styrene		4.1 ppb	25	4 D	100		10
styrene		4.1 ppb	25	7 D	100		10
toluene		0.46 ppbv	25	7 D	135	FID detector	10
toluene		0.46 ppbv	25	30 D	220	FID detector	10
toluene		1 ppm	25	12 D	85		40
toluene		1.01 ppb	25	30 D	120		8
toluene		10100 ppm	25	12 D	80		40
toluene		2.7-9.8ppm	25	12 D	79		40
toluene		3 ppm	25	12 D	100		40
toluene		6 ppm	25	0 D	100	special sample bottle	27
toluene		80 ppm	25	0 D	100	special sample bottle	27
1,3,5-trimethylbenzene		3.2 ppb	25	4 D	100		10
1,3,5-trimethylbenzene		3.2 ppb	25	7 D	100		10
o-xylene		0.15 ppbv	25	7 D	60	FID detector	10
o-xylene		0.15 ppbv	25	30 D	153	FID detector	10
m-xylene		3.8 ppb	25	4 D	100		10
m-xylene		3.8 ppb	25	7 D	100		10
p-xylene		1 ppm	25	12 D	85		40
p-xylene		10100 ppm	25	12 D	80		40
p-xylene		3 ppm	25	12 D	100		40
p-xylene		3.8 ppb	25	4 D	100		10

Matrix: Air - Canister Class: Volatile Organics - Non-Halogenated

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
p-xylene		3.8 ppb	25	7 D	100		10

COMPOUND CLASS PROFILE

Volatile Organics - Non-halogenated

Air - Filter:

Existing Criteria: None

Experimental Data: One Study. No preservation. 15 to 61 ppm level. Storage at 20°C for 6 days.

Data Evaluation: Data is insufficient for any analysis.

Data Deficiencies: Only 2 data entries for styrene obtained. No data obtained for majority of compounds on list.

Storage Recommendations: Tentative recommendation - store filters at -20°C under air-argon gas mixture. Samples are stable for at least 2 years or store sealed samples at 4°C for up to 6 days before analysis.

COMPOUND CLASS: *Volatile Organics - Non-halogenated* **MATRIX:** *Air - Filter* **RUN DATE:** *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION	T (C)	TIME	RECOVERY	COMMENT	REFERENCE
styrene							
	NONE	15 - 61 ppm	20	6 - 6 D	100 - 100		

Average Recovery: 100 Std. Dev.: 0.0

Matrix: Air - Filter Class: Volatile Organics - Non-Halogenated

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
styrene		15 ppm	21	6 D	100		37
styrene		61 ppm	20	6 D	100		37

COMPOUND CLASS PROFILE

Volatile Organics - Non-halogenated

Air - Sorbent Trap:

Existing Criteria:	None
Experimental Data:	None
Data Evaluation:	None
Data Deficiencies:	No data obtained
Storage Recommendations:	Tentative recommendation - follow U.S. E.P.A. protocol of sampling with distributed air volume sets. Sample tubes are sealed; refrigerated; analysis to be completed between 7 and 30 days after sampling.

COMPOUND CLASS PROFILE

Volatile Organics - Non-halogenated

Drinking/Surface Water:

Existing Criteria:	U.S. EPA Sampling Manual Collect in amber glass container with teflon lined septum; 0.008% $Na_2S_2O_3$; refrigerate; analyze within 14 days.
Experimental Data:	Two studies. One study involved the use of syringes and results are questionable. The second study involved the comparison of storage at different concentration levels and temperatures
Data Evaluation:	Comparison of data indicate that stability is about the same at 4°C and at 25°C. with no preservation.
Data Deficiencies:	No data obtained for majority of compounds on list. Insufficient data for statistical analysis. Data from different studies conflict.
Storage Recommendations:	Provisional recommendation - store samples at 4°C for up to 56 days with no preservation before analysis or follow U.S EPA protocols of collection in amber glass bottle with teflon lined septum; 0.008% $Na_2S_2O_3$; refrigerate; analyze within 14 days.

COMPOUND CLASS: *Volatile Organics - Non-halogenated* **MATRIX:** *Drinking/Surface Water* **RUN DATE:** *13-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION		T (C)	TIME		RECOVERY	COMMENT	REFERENCE
benzene									
	NONE	45 - 50 & 500	ug/L	4	1 - 56	D	100 - 100		
				Average Recovery:			100	Std. Dev.: 0.0	
ethylbenzene									
	NONE	50 & 5 - 50 & 500	ug/L	4	34 - 56	D	98 - 100		
				Average Recovery:			99	Std. Dev.: 0.9	
styrene									
	NONE	50 & 5 - 50 & 500	ug/L	4	56 - 56	D	100 - 100		
				Average Recovery:			100	Std. Dev.: 0.0	
toluene									
	NONE	36 - 50 & 500	ug/L	25	1 - 56	D	100 - 100		
				Average Recovery:			100	Std. Dev.: 0.0	
o-xylene									
	NONE	50 & 5 - 50 & 500	ug/L	4	56 - 56	D	100 - 100		
				Average Recovery:			100	Std. Dev.: 0.0	
m-xylene									
	NONE	26 - 26	MG/M3		1 - 9	D	100 - 100		
				Average Recovery:			100	Std. Dev.: 0.0	

Matrix: Water Class: Volatile Organics - Non-Halogenated

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
benzene		45 MG/M3		1 D	100		140
benzene		45 MG/M3		2 D	100	questionable results	140
benzene		45 MG/M3		3 D	100		140
benzene		45 MG/M3		9 D	100		140
benzene		50 & 500 ug/L	4	56 D	100		77
benzene		50 & 500 ug/L	4	56 D	100		77
ethylbenzene		50 & 500 ug/L	4	56 D	100		77
ethylbenzene		50 & 500 ug/L	4	56 D	100		77
ethylbenzene			4	34 D	98	org. free H2O, not bio. active	9
styrene		50 & 500 ug/L	4	56 D	100		77
styrene		50 & 500 ug/L	4	56 D	100		77
toluene		36 MG/M3		1 D	100		140
toluene		36 MG/M3		2 D	100	questionable results	140
toluene		36 MG/M3		3 D	100		140
toluene		36 MG/M3		9 D	100		140
toluene		50 & 500 ug/L	4	56 D	100		77
toluene		50 & 500 ug/L	4	56 D	100		77
o-xylene		50 & 500 ug/L	4	56 D	100		77
o-xylene		50 & 500 ug/L	4	56 D	100		77
m-xylene		26 MG/M3		1 D	100		140
m-xylene		26 MG/M3		2 D	100	questionable results	140
m-xylene		26 MG/M3		3 D	100		140
m-xylene		26 MG/M3		9 D	100		140

COMPOUND CLASS PROFILE

Volatile Organics - Non-halogenated

Sediment:

Existing Criteria: None

Experimental Data: One study. Comparison of recoveries at 4°C and 25°C at the 250-2500 ug/kg level with no preservation.

Data Evaluation: Analysis of the data indicates that recoveries are equal at either temperature for at least 56 days.

Data Deficiencies: Limited data obtained, no statistical analysis possible.

Storage Recommendations: Tentative recommendation - store samples at 4°C with no preservation. Analysis to be completed within 56 days.

COMPOUND CLASS: *Volatile Organics - Non-halogenated* MATRIX: *Sediment* RUN DATE: *12-Oct-89*

COMPOUND	PRESERVATIVE	CONCENTRATION	T (C)	TIME	RECOVERY	COMMENT	REFERENCE
benzene		250 & - 250 & 2500 ug/kg	4	56 - 56 D	100 - 100		
			Average Recovery:		100	Std. Dev.: 0.0	
ethylbenzene		250 & - 250 & 2500 ug/kg	25	56 - 56 D	100 - 100		
			Average Recovery:		100	Std. Dev.: 0.0	
styrene		250 & - 250 & 2500 ug/kg	25	56 - 56 D	100 - [illegible]		
			Average Recovery:		100	Std. Dev.: 0.0	
toluene		250 & - 250 & 2500 ug/kg	4	56 - 56 D	100 - 100		
			Average Recovery:		100	Std. Dev.: 0.0	
o-xylene		250 & - 250 & 2500 ug/kg	4	56 - 56 D	100 - 100		
			Average Recovery:		100	Std. Dev.: 0.0	

Matrix: Sediment Class: Volatile Organics - Non-Halogenated

Compound	Preservative	Conc	Temp	Time	% REC	Comments	ASC
benzene		250 & 2500 ug/kg	25	56 D	100		77
benzene		250 & 2500 ug/kg	4	56 D	100		77
ethylbenzene		250 & 2500 ug/kg	4	56 D	100		77
ethylbenzene		250 & 2500 ug/kg	25	56 D	100		77
styrene		250 & 2500 ug/kg	4	56 D	100		77
styrene		250 & 2500 ug/kg	25	56 D	100		77
toluene		250 & 2500 ug/kg	25	56 D	100		77
toluene		250 & 2500 ug/kg	4	56 D	100		77
o-xylene		250 & 2500 ug/kg	25	56 D	100		77
o-xylene		250 & 2500 ug/kg	4	56 D	100		77

COMPOUND CLASS PROFILE

Volatile Organics - Non-halogenated

Waste Water:

Existing Criteria:	U.S. EPA Sampling Manual Collect in amber glass container with teflon lined septum; 0.008% $Na_2S_2O_3$; refrigerate; analyze within 14 days.
Experimental Data:	None
Data Evaluation:	None
Data Deficiencies:	No data obtained.
Storage Recommendations:	Tentative recommendation - follow U.S EPA protocols of collection in amber glass bottle with teflon lined septum; 0.008% $Na_2S_2O_3$; refrigerate; analyze within 14 days.

COMPOUND CLASS PROFILE

Volatile Organics - Sulphur Compounds

Air - Canister or Bag:

Existing Criteria:	None
Experimental Data:	None
Data Evaluation:	None
Data Deficiencies:	No data obtained.
Storage Recommendations:	Tentative recommendation - store SUMMA canisters or glass sample containers at 25°C for up to 12 days before analysis.

COMPOUND CLASS PROFILE

Volatile Organics - Sulphur Compounds

Air - Filter:

Existing Criteria: None

Experimental Data: None

Data Evaluation: None

Data Deficiencies: No data obtained.

Storage Recommendations: Tentative recommendation - store filters at -20°C under air-argon gas mixture. Samples are stable for at least 2 years or store sealed samples at 4°C for up to 6 days before analysis.

COMPOUND CLASS PROFILE

Volatile Organics - Sulphur Compounds

Air - Sorbent Trap:

Existing Criteria: None

Experimental Data: None

Data Evaluation: None

Data Deficiencies: No data obtained.

Storage Recommendations: Tentative recommendation - follow U.S. E.P.A. protocol of sampling with distributed air volume sets. Sample tubes are sealed; refrigerated; analysis to be completed between 7 and 30 days after sampling.

APPENDIX B -List of Contributors to the Study.

J. Bumgarner	U.S. Environmental Protection Agency
A.S.Y. Chau	Canadian Centre for Inland Waters
H.B. Lee	Canadian Centre for Inland Waters
L. Lieberstein	Wisconsin Fish and Wildlife
B. McClenny	U.S. Environmental Protection Agency
W. Scheider	MOE-Aquatic Biology Section, Water Resources Branch
R. Turle	Environment Canada, National Wildlife Research Centre
A. Vajdic	MOE-Drinking Water Section, Water Resources Branch

APPENDIX C - DBase IV Procedures, File Structures and Relationships Used in this Study and Key Words Used in the Literature Searches.

```
Structure for database: C:\52709\BIBLIOG.DBF
Number of data records:      193
Date of last update   : 16/03/89
Field  Field Name  Type       Width    Dec    Index
    1  ASCENSION   Numeric        4               N
    2  DB          Character      5               N
    3  ORDERED     Logical        1               N
    4  RECEIVED    Logical        1               N
    5  AN          Character     24               N
    6  TI_1        Character     70               N
    7  TI_2        Character     70               N
    8  TI_3        Character     70               N
    9  TI_4        Character     70               N
   10  TI_5        Character     70               N
   11  TI_6        Character     70               N
   12  AU_1        Character     70               N
   13  AU_2        Character     70               N
   14  AU_3        Character     70               N
   15  AU_4        Character     70               N
   16  CS          Character     60               N
   17  LO          Character     36               N
   18  SO          Character     70               N
   19  SC          Character     66               N
   20  DT          Character      2               N
   21  CO          Character      7               N
   22  IS          Character     13               N
   23  PY          Character      5               N
   24  LA          Character      3               N
** Total **                     998
```

```
Structure for database: C:\52709\CLASSKEY.DBF
Number of data records:       13
Date of last update   : 20/06/88
Field  Field Name  Type       Width    Dec    Index
    1  CLASS       Character      2               N
    2  CLASS_NAME  Character     50               N
** Total **                      53
```

```
Structure for database: C:\52709\CPD_DET.DBF
Number of data records:     2529
Date of last update   : 15/03/89
Field  Field Name  Type       Width    Dec    Index
    1  ASCENSION   Numeric        4               N
    2  MATRIX      Character      5               N
    3  PRESERV     Character     12               N
    4  CAS_NO      Character     10               N
    5  CONC        Character     12               N
    6  UNITS       Character      5               N
    7  TEMPERATUR  Character      4               N
    8  TIME        Numeric        7      2        N
    9  TIME_UNIT   Character      1               N
   10  RECOVERY    Numeric        7      2        N
   11  COMMENT     Character     30               N
** Total **                      98
```

```
Structure for database: C:\52709\CPD_LIST.DBF
Number of data records:       346
Date of last update   : 24/01/89
Field  Field Name  Type       Width    Dec    Index
    1  ALPHA_SORT  Character     28               N
    2  NAME        Character     50               N
    3  CAS_NO      Character      9               N
    4  EMPPL       Character      9               N
    5  STORE_LIST  Logical        1               N
    6  CLASS       Character      2               N
    7  DW          Logical        1               N
    8  WW          Logical        1               N
    9  AIR         Logical        1               N
   10  SED         Logical        1               N
   11  BIOTA       Logical        1               N
   12  VEG         Logical        1               N
** Total **                     106
```

```
Structure for database: C:\52709\MATRIXKE.DBF
Number of data records:       8
Date of last update    : 17/01/89
Field  Field Name  Type         Width     Dec    Index
    1  MATRIX      Character        5                N
    2  NAME        Character       30                N
** Total **                        36
```

```
* Program.: CPD_DET.PRG
* Author..: W.M.Neaves
* Date....: 17 Jan 1989
* Notes...: Look up article from BIBLIOG and enter details
Procedure get_data
* Close all open files
CLEAR ALL

* Set working environment
SET TALK OFF
SET ESCAPE OFF
SET BELL OFF
SET HELP OFF
SET STATUS OFF
SET SCOREBOARD OFF
* initialize new variables
today=DATE()
m_look = "     "
PUBLIC m_ascen
* Open the database
select 1
use bibliog index ascensio
DO WHILE .T.
* DO WHILE .T. means DO WHILE TRUE  i.e. DO FOREVER
* The DO WHILE will be terminated by a RETURN command

   * Clear the screen and display the prompt
   CLEAR
   @ 2, 5 SAY "Enter the Ascension Number "
   @ 2,33 get m_look
   read
   m_ascen = val( m_look)
   select bibliog
   seek m_ascen
   if found()
      @ 4,2 say an
      @ 5,2 say left( ti_1,70)
      @ 6,2 say left( ti_2,70)
      @ 7,2 say left( ti_3,70)
      @ 8,2 say left( au_1,70)
      @ 9,2 say left( au_2,70)
      @10,2 say left( au_3,70)
      @11,2 say ( trim( so) + " ("+ trim( py)+ ")")
      @17,2 say "Is this correct (Y/N)? "

        do while .T.     && Evaluate the response
         i=chr( INKEY())
         DO CASE
            case i $ "Yy"
                 @ 17,26 SAY "Yes"  && Got a match
                 DO GET_DET         && so get the data
                 EXIT
            CASE i $ "Nn"
```

```
                  @ 17,26 SAY "No"
                  exit
           endcase
          enddo
    else
          @ 15,2 SAY "Can't find the article..."
    endif
  @ 20, 2
  @ 20, 2 SAY "Do another article (Y/N)? "
  DO While .T.
        i = chr( inkey())
        DO CASE
          CASE i $ "Yy"
                @ 20, 26 SAY "Yes"
                EXIT
          CASE i $ "Nn"
                @ 20,26 SAY "No"

         * clear variables and return to calling program or dbase system
                clear all
                SET TALK ON
                SET ESCAPE ON
                SET BELL ON
                SET HELP ON
                SET STATUS ON
                SET SCOREBOARD ON
                RETURN
        ENDCASE
  ENDDO
ENDDO
* Eof: CPD_DET.PRG
procedure get_det
* Program.: GET_DET.PRG
* Author..: W.M.Neaves
* Date....: 17 Jan 1989
* Notes...: Look up article from BIBLIOG and enter details


* initialize new variables
today=DATE()
m_look = "    "

* Open the databases
select 2
use cpd_list

* Now initialize the memory variables for data input
  m_matrix = space(5)
  m_unit = space(5)
  m_temp = space(4)
  m_tunit = space(1)
  m_pres = space(12)
  m_comm = space(30)
```

```
DO WHILE .T.              && loop terminates with a RETURN

        * find the compound
        select 2
        c_found = .F.
        do look_up                        && find the compound in the list
        if c_found                      && Found it, so...
         do cpd_mask                       && set up the screen for entry
         do cpd_get                     && get detail information and append
                                        && to the CPD_DET database
        endif
        * Now find out if the user is finished
        @ 20,  2
        @ 20,  2 SAY "Enter another compound (Y/N)? "
        DO WHILE .T.
                i = chr( inkey())
                do case
                  CASE i $ "Yy"
                    @ 20,35 SAY "Yes"
                    Exit

                  case i $ "Nn"
                    @ 20,35 SAY "No"
                    Return

                endcase
        ENDDO
ENDDO
* GEt the data from the user
* Eof: CPD_DET.PRG
procedure cpd_get
* Program cpd_get - Add detail information for each compound
* Called from cpd_det
* Screen set up is done by CPD_MASK.PRG
* Uses a wrap-around read loop

* Initialize some variables
  m_conc = space(12)
  m_time = space(7)
* First set up a loop to keep cycling until the user is done
more = .T.
DO WHILE more
  m_recov = space(8)
* Set up the wrap-around read
  AGAIN = .T.

  DO WHILE AGAIN
    @  4, 33  GET m_matrix function "!"
    @  4, 56  GET m_pres function "!"
    @ 10, 11  GET m_conc
    @ 10, 30  GET m_unit
    @ 10, 54  GET m_temp
    @ 12, 18  GET m_time picture "#######"
    @ 12, 45  GET m_tunit function "!"
    @ 14, 15  GET m_recov picture "#######"
    @ 14, 35  GET m_comm
  READ
* Clear the message line
    @ 20, 2
* Evaluate how the read ended
    DO CASE
      CASE  READKEY() = 12  && <ESC> was pressed
        EXIT
      CASE READKEY() = 270  && <CTRL>-END was pressed
        AGAIN = .F.
        EXIT
    ENDCASE
  ENDDO
* IF THE READ ENDED WITH <CTRL>-END ADD TO THE DATABASE
IF .NOT. AGAIN
   m_recov = val( m_recov)
   select 3
   use cpd_det
   APPEND BLANK
   REPLACE CPD_DET->ascension with m_ascen
   REPLACE CPD_DET->matrix with m_matrix
   REPLACE CPD_DET->preserv with m_pres
   REPLACE CPD_DET->cas_no with CPD_LIST->cas_no
   REPLACE CPD_DET->conc with m_conc
   REPLACE CPD_DET->UNITS with m_unit
   REPLACE CPD_DET->temperatur with m_temp
   REPLACE CPD_DET->time with val(m_time)
   REPLACE CPD_DET->time_unit with m_tunit
   REPLACE CPD_DET->recovery with m_recov
   REPLACE CPD_DET->comment with m_comm
   use
   select 2
  ENDIF
  @ 20, 2
  @ 20, 2 SAY "More data for this compound (Y/N)? "
  DO WHILE .T.
   i = chr( inkey())
   DO CASE
      CASE i $ "Yy"
        @ 20, 37 SAY "Yes"
        exit
      CASE i $ "Nn"
        @ 20, 36 SAY "No"
        more = .F.
        exit
    ENDCASE
  ENDDO
ENDDO
*EOF - Program GET_CPD.PRG
procedure cpd_mask
* Program: CPD_MASK
*  Author: W.M.Neaves
* Revised: 20 Jan 89
* COMMENT: Sets up entry screen for detailed information entry
clear      && clear the screen
●  0,  0 TO 17,69 Double
●  3,  1 to  3,68
●  9,  1 to  9,68
●  1,  5  SAY "Project 52709: MOE Organic Compound Stability Survey"
●  2, 20  SAY "Compound Detail Information Entry"
●  4,  5  SAY "Reference No:"
●  4, 19  SAY  STR( m_ASCEN, 4)
●  4, 26  SAY "Matrix:"
●  4, 42  SAY "Preservative:"
●  5,  5  SAY "( Matrix Choices: DW,WW,AIR-C,AIR-F,AIR-S,SED,BIO,VEG)"
●  7,  5  SAY "Name:"
●  7, 11  SAY CPD_LIST->name
●  8,  5  SAY "CAS Registry No:"
●  8, 22  SAY CPD_LIST->CAS_NO
●  8, 31  SAY "Compound Class: "
●  8, 47  SAY CPD_LIST->CLASS
● 10,  5  SAY "Conc:                Units:"
● 10, 41  SAY "Temperature:"
● 12,  5  SAY "Time Stored:"
● 12, 28  SAY "Units (Y/M/W/D):"
● 14,  5  SAY "Recovery:"
● 14, 25  SAY "Comment:"
● 16, 12  SAY "Press <CTRL>-END to Accept, <ESC> to Cancel"
*EOF - Progran CPD_MASK.PRG
```

```
Page #    1

* Program.: GET_DET.PRG
* Author..: W.M.Neaves
* Date....: 17 Jan 1989
* Notes...: Look up article from BIBLIOG and enter details


* initialize new variables
today=DATE()
m_look = "    "

* Open the databases
select 2
use cpd_list

* Now initialize the memory variables for data input
 m_matrix = space(5)
 m_unit = space(5)
 m_temp = space(4)
 m_tunit = space(1)
 m_pres = space(12)
 m_comm = space(30)
DO WHILE .T.                 && loop terminates with a RETURN

        * find the compound
        select 2
        c_found = .F.
        do look_up                      && find the compound in the list
        if c_found                    && Found it, so...
         do cpd_mask                     && set up the screen for entry
         do cpd_get                   && get detail information and append
                                      && to the CPD_DET database
        endif
        * Now find out if the user is finished
        @ 20,  2
        @ 20,  2 SAY "Enter another compound (Y/N)? "
        DO WHILE .T.
                i = chr( inkey())
                do case
                  CASE i $ "Yy"
                    @ 20,35 SAY "Yes"
                    Exit

                  case i $ "Nn"
                    @ 20,35 SAY "No"
                    Return

                endcase
        ENDDO
ENDDO
* GEt the data from the user
* Eof: CPD_DET.PRG
```

```
Page #     1

* Program LOOK_UP
* Looks-up compound information from a name fragment.
* Uses cpd_list database
* W.M.Neaves  March 21, 1988
*
*
m_name = space(30)
m_rec = 1
max_rec = reccount()
c_found = .F.
@ 20, 2
@ 20, 2 Say "Enter Compound Name: "
@ 20,25 GET m_name
READ
select cpd_list
clear
locate for (UPPER( LTRIM( TRIM( m_name))) $ UPPER( name))
if found()
  display name for (UPPER( ltrim( trim( m_name))) $ UPPER( name))
  @ 22,55 SAY "Select Record: "
  @ 22,69 GET m_rec range 1, max_rec
  READ
  go m_rec
  c_found = .T.
  return
else
  msg = "Can't find compound named " + m_name
  @ 15, 2 SAY msg
  return
endif
* EOF: Program Look_up
```

Key words used in Literature Searches

Acids
Air
Analysis
Analytical
Base Neutral
Biota
Carbamate
Dioxins
Fatty
Herbicides
Methods
Monitoring
Organics
Organochlorine
Organophosphorus
Pesticides
Phenoxy
Polyaromatic Hydrocarbons
Preservation
Quality
Resin acids
Sample
Sampling
Sediment
Soil
Stability
Storage
Techniques
Triazine
Vegetation
Volatile
Wastewater
Water

APPENDIX D - Bibliography in Alphabetical Order by Authors.

ENVIROCLEAN - A Unit of Lavalin Engineers Inc.
Project 52709-A1-010000 Trace Organics Sample Stability Study
Bibliography by Author
Thursday, 26 October 1989

Database: CRC-2 Reference No.:
Guidelines on Sampling and Statistical Methodologies for Ambient Methodologies for Ambient Pesticide Monitoring.
1974 Language: Eng Ascension: 159

Database: CRC-3 Reference No.:
Guidelines on Analytical Methodology for Pesticide Residue Monitoring.
June, 1975.
1975 Language: Eng Ascension: 206

Database: CRC-3 Reference No.:
Guideline on Sampling and Statistical Methodologies for Ambient Pesticide Monitoring.
October, 1964.
1964 Language: Eng Ascension: 205

Database: CAS Reference No.: CA94(20):162124m
Preservation of water samples
Waters Res., 15(2), 233-241 (79)
1981 Language: Eng Ascension: 41

Database: WTRRE Reference No.: 586875 W88-00797
Operating procedures and Quality Control Assurance Program for water quality monitoring network.
1984 Language: Eng Ascension: 79

Database: WTRRE Reference No.: 121089 W78-03979
Accuracy in trace analysis: Sampling, sample Handling, analysis.
Volume II.
National Technical Information Service as PB-258 092
1976 Language: Eng Ascension: 94

Database: WTR Reference No.: 178236 W86-00268
Addendum to Handbook for Sampling and Sample Preservation
Report Number: EPA-600/4-83-039
1983 Language: Eng Ascension: 75

Database: CAS Reference No.: CA90(6):43295a
Effect of handling procedures on sample quality
Adams, J. W.; Doerfler, T. E.; Summers, C. H.
U. S. NTIS, PB Rep., PB-279910, 58 pp. Avail. NTIS
1978 Language: Eng Ascension: 54

Database: ENV Reference No.: 1400906
Analysis of hydrocarbons and aquatic sediments. I. Sample handling and extraction.
Albaiges, J.; Grimalt, J.; Marfil, C.
Int. J. Environ. Anal. Chem. 1984, 18(3), p 183.
1984 Language: Eng Ascension: 103

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---------------------------------------------------------------------------
Database: CAS                       Reference No.: CA104(20):173478f
Charcoal air sampling tube storage stability and desorption
efficiencies of 1,2-dibromo-3-chloropropane (DBCP) and
1,3-dichloropropene (DCP)
Albrecht, William N.; Hagadone, Mark R.; Chenchin, Karen
Bull. Environ. Contam. Toxicol., 36(4), 629-34
1986                     Language: Eng                   Ascension:   11
--------------------------------------------------------------------------
Database: CAS                       Reference No.: CA91(19):152099f
Problems in analytic methodology: sample handling, extraction, and
cleanup.
Albro, P. W.
Ann. N. Y. Acad. Sci., 320, 19-27
1979                     Language: Eng                   Ascension:  127
--------------------------------------------------------------------------
Database: CAS                       Reference No.: CA97(20):168035s
A study on the preservability of PAH in the airborne particles
sampled on filters
Ambe, Yoshinari; Yasuhara, Akio; Yokouchi, Yoko; Morita, Masatoshi
Kokuritsu Kogai Kenkyusho Kenkyu Hokoku, 36, 137-41
1982                     Language: Jap                   Ascension:   33
--------------------------------------------------------------------------
Database: CAS                       Reference No.: CA93(15):144691u
Ways for preserving biological samples contaminated with
organochlorine pesticides
Anpalov, V. A.
Sib. Vestn. S-kh. Nauki, 10(2), 93-4
1980                     Language: Rus                   Ascension:   47
--------------------------------------------------------------------------
Database: CRC-2                     Reference No.:
Organophosphorous pesticides-A gas chromatographic screening
technique based on detection of methylated hydrolysis products.
Askew, J.; Ruzicka, J. H. A.; Wheals, B. B.
J. Chromatogr., 41, 180, 1969.
1969                     Language: Eng                   Ascension:  156
--------------------------------------------------------------------------
Database: CAS                       Reference No.: CA104(5):30259z
Effect of time and conditions of storing soil samples on detection in
them of pesticides
Babkina, E. I.; Trublaevich, Zh. N.
USSR
Tr. Inst. Eksp. Meteorol., Ser. "Zagryaz. Prir. Sred", 13, 35-41
1985                     Language: Rus                   Ascension:   14
--------------------------------------------------------------------------
Database: CAS                       Reference No.: CA66(21):94256a
Detection of phthalate esters as contaminants of lipid extracts from
soil samples stored in standard soil bags
Bauman, Albert J.; Cameron, Ray E.
Lipids, 2(1), 85-6
1967                     Language: Eng                   Ascension:   67
--------------------------------------------------------------------------
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Database: Reference No.:
Analysis of Waste Waters for PAH II: Errors, Sampling and Storage.
Bedding, N.D.; McIntyre, A.E.; Lester, J.N.; and Perry R.
J. of Chromat. Sci., Vol 26, p606
1988 Language: eng Ascension: 231

Database: CRC-2 Reference No.:
The use of polyurethane foam plugs for extraction of polychlorinated biphenyl (PCB's) from natural waters.
Bedford, J. W.
Bull. Envrion. Cont. Toxicol., 12, 622, 1974.
1974 Language: Eng Ascension: 182

Database: Reference No.:
Analysis of Explosives in Water by Capillary Gas Chromatography
Belkin, Frederick; Bishop, Richard W.; Sheely, Michael V.
J. Chromato. Sci., vol 24, p532
1985 Language: Eng Ascension: 234

Database: CAS Reference No.: CA94(26):213432v
Evaluation of an evacuated glass sampler for the analysis of volatile organic compounds in ambient air
Berg, Sven; Jacobsson, Sven; Nilsson, Bertil
J. Chromatogr. Sci., 18(4), 171-9
1980 Language: Eng Ascension: 40

Database: CRC-2 Reference No.:
The use of Amberlite XAD-2 resin for the quantitative recovery of fenitrothion from water-a preservation technique.
Berkane, K.; Caisse, G. E.; Mallet, V. N.
J. Chromatogr., 139, 386, 1977.
1977 Language: Eng Ascension: 180

Database: CRC-2 Reference No.:
High-volume collection of atmospheric polychlorinated biphenyls.
Bidleman, T. F.; Olney, C. E.
Bull. Environ. Cont. Toxicol., 11, 442, 1974.
1974 Language: Eng Ascension: 181

Database: Reference No.:
Use of Hexane for the Quantitative Recovery of Organophosphorus Pesticides from Aqueois Solution. A Field Method and a Preservation Technique.
Blanchet, P.F.
J. of Chromat. Sci., vol 179, p123-129
1979 Language: Eng Ascension: 247

Database: BIO Reference No.: 0017555417
Changes in oxygen carbon dioxide and ethylene mixtures stored in plastic or glass Syringes.
Blankenship, S. M.; Hammett, L. K.
Hortscience 22(2). 1987. p 278-280.
1987 Language: Eng Ascension: 101

Database: CRC-2 Reference No.:
Preservation of organophosphorus pesticides in water samples.
Bourne, S.
J. Environ. Sci. Health, B13, 75, 1978.
1978 Language: Eng Ascension: 168

Database: COMP Reference No.: 01068317
Priority pollutants sample collection and handling.
Brantner, K. A.; Pojasek, R. B.; Stover, E. L.
Pollution Engineering, Vol. 13, No. 3(March), 1981, p. 34-38.
1981 Language: Eng Ascension: 111

Database: CRC-2 Reference No.:
Methods for Collection and Analysis of Water Samples for Dissolved Minerals and Gases.
Brown, E.; Skougstad, M. W.; Fishman, M. J.
Tech. Water-Resour. Invest., K 5, 1970, 160.
1970 Language: Eng Ascension: 162

Database: COM Reference No.: 01483111
Gas Chromatography accessory for handling samples.
Bryant, R. M.; Long, D. C.
IBM Technical Disclosure Bulletin, Vol. 25, No. 11B, April, 1983
1983 Language: Eng Ascension: 114

Database: Reference No.: 0530047
Improvements in sampling, storing and analysis of soil and air for gas-chromatography.
Bunting, B. T.;Campbell, J. A.
Canadian Journal of Soil Science, Vol. 55, No. 1, pp 69-71, 1975.
1975 Language: Eng Ascension: 139

Database: CRC-2 Reference No.:
Identification and estimation of neutral organic contaminants in potable water.
Burnham, A. K.; Calder, G. V.; Fritz, J. S.; Junk, B. A.; Svec, H. J.; Willis, R.
Anal. Chem., 44, 139, 1972.
1972 Language: Eng Ascension: 185

Database: CRC-2 Reference No.:
Analytical considerations in determining residue of organochlorine insecticides in environmental samples.
Caro, J. H.
Breach Science Publishers, New York, 1971, 457.
1971 Language: Eng Ascension: 161

Database: CAS Reference No.: CA96(2):11335w
Storage and filtration of water samples.
Casey, H.; Walker, S. M.
Int. Environ. Saf., (Oct.),16-17.
1981 Language: Eng Ascension: 123

Database: CRC-2 Reference No.:
Investigations of the integrity of seven herbicidal acids in water samples.
Chau, A. S. Y.; Thomson, K.
J. Assoc. Off Anal. Chem., 61, 1481, 1978.
1978 Language: Eng Ascension: 202

Database: Reference No.:
CRC Handbook of Analysis of Pesticides in Water Volume 2
Chau, A.S.Y.; Afghan, B.K.
1977 Language: ENG Ascension: 228

Database: Reference No.:
CRC Handbook of Analysis of Pesticides in Water Volume 1
Chau, A.S.Y.; Afghan, B.K.
1977 Language: ENG Ascension: 227

Database: Reference No.:
CRC Handbook of Analysis of Pesticides in Water Volume 3
Chau, A.S.Y; Afghan, B.K.
1977 Language: ENG Ascension: 229

Database: CAS Reference No.: CA99(22):181189f
Preservation and treatment of water samples for benzo[a]pyrene determination
Chen, Xiulan; Zhu, Zeyu
Huanjing Baohu (Beijing), (8), 30
1983 Language: Ch Ascension: 23

Database: CRC-2 Reference No.:
Extraction and analytical techniques for pesticides in soil, sediment and water.
Chesters, G.; Pionke, H. B.; Daniel, T. C.
Pesticides in Soil and Water, Guenzi, W. D.; Ed, 1974, chap 16
1974 Language: Eng Ascension: 165

Database: CAS Reference No.: CA106(6):43212v
The investigation of different environmental samples for polychlorinated dibenzodioxins and dibenzofurans
Christmann, W.; Rotard, W.; Schinz, V.; Bode, H.
Chemosphere, 15(9-12), 2077-80
1986 Language: Eng Ascension: 6

Database: CAS Reference No.: CA93(6):52735h
Sample composition changes in sampling and analysis of organic compounds in aerosols
Clement, R. E.; Karasek, F. W.
Int. J. Environ. Anal. Chem., 7(2), 109-20
1979 Language: Eng Ascension: 48

Database: CRC-2 Reference No.:
Confirmation of pesticide residue identity. VIII. Organophophorous pesticides.
Cobourn, J. A.; Chau, A. S. Y.
J. Assoc. Off. Anal. Chem., 57, 1272, 1974.
1974 Language: Eng Ascension: 158

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Database: Reference No.:
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Lee, H.B.; Leishman, P.D.; Todd, S.; Chau, A.S.Y.
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1987 Language: Eng Ascension: 216

Database: Reference No.:
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1986 Language: Eng Ascension: 217

Database: Reference No.:
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1986 Language: Eng Ascension: 232

Database: Reference No.:
Stability of Hydrocarbon Sampleson Solid Phase Extraction Columns.
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1987 Language: Eng Ascension: 233

Database: Reference No.:
Analysis of Explosives in Water by Capillary Gas Chromatography
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1978 Language: Eng Ascension: 313

Database: Reference No.:
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1974 Language: Eng Ascension: 314

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Database: Reference No.:
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Database: Reference No.:
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Riskallah, M.R.; El-Sayed, M.M.; and Hindi, S.A.
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Database: Reference No.:
Long Term Preservation of Egg and Tissue Homogenates for Determination of Oganochlorine Compounds: Freezing vs Freeze Drying.
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1987 Language: eng Ascension: 325

APPENDIX F - List of Compound Classes and Matrices.

ENVIROCLEAN - A Unit of Lavalin Engineers Inc.
Project 52709-A1-000000 Trace Organics Sample Stability Study
Compound List

Compound Class: Neutral Chlorinated Extractables

NAME	CAS Registry No.
alpha-BHC	319846
beta-BHC	319857
delta-BHC	319868
gamma-BHC	58-89-9
aldrin	309002
a-chlordane	5103-71-9
g-chlordane	5103-74-2
p,p'-ddd	72548
p,p'-dde	72559
o,p'-ddt	789026
4,4'-ddt	50293
dieldrin	60571
2,8-dih-mirex	2385-85-5
alpha-endosulfan (Endosulfan I)	959988
beta-endosulfan (Endosulfan II)	33213659
endosulfan sulfate	1031078
endrin	72208
heptachlor	76448
heptachlor epoxide	1024573
hexachlorobenzene	118741
hexachlorobutadiene (HCBD)	87683
hexachlorocyclopentadiene	77474
hexachloroethane	67721
methoxychlor (DMDT)	72435
nonachlor	39765-80-5
octachlorostyrene	29082744
oxychlordane	27304-13-8
pentachlorobenzene	608935
1,2,3,4-tetrachlorobenzene	634662
1,2,3,5-tetrachlorobenzene	634902
1,2,4,5-tetrachlorobenzene	95943
total pcbs	TOTALPCB
toxaphene	8001352
1,2,3-trichlorobenzene	87616
1,2,4-trichlorobenzene	120821
1,3,5-trichlorobenzene	108703
2,3,6-trichlorotoluene	2077465
2,4,5-trichlorotoluene	6639301
a,2,6-trichlorotoluene	2014837

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Compound List

Compound Class: Volatile Organics - Sulphur Compounds

NAME	CAS Registry No.
carbonyl sulphide (carbonyl disulphide)	463581
dimethyl disulphide	624920
dimethyl sulphide	75183
methyl mercaptan	74-93-1
ethyl mercaptan	75-08-1
hydrogen sulphide	7783064
thiophene	110021

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Compound List

Compound Class: Volatile Organics - Non-halogenated

NAME	CAS Registry No.
benzene	71432
butane	106978
n-butylbenzene	104518
n-butylcyclohexane	1678939
cyclohexane	110827
cyclohexene	110838
cyclopentane	287923
decane	124185
1,2-diethylbenzene	135013
1,3-diethylbenzene	141935
1,4-diethylbenzene	105055
2,2-dimethylbutane	75832
2,3-diemthylbutane	79298
cis-1,2-dimethylcyclohexane	27195-67-1
2,5-dimethylhexane	592132
2,3-dimethylpentane	565593
ethane	74840
ethylbenzene	100414
ethylcyclohexane	1678917
ethylene	74851
2-ethyltoluene	611143
3-ethyltoluene	620144
4-ethyltoluene	622968
heptane	142825
1-heptene	592767
hexane	110543
1-hexene	592416
indan	496117
isoprene	78795
isopropylbenzene	98828
1-isopropyl-4-methylbenzene	1Ip4MePh
methane	74828
4-methyl-1-pentene	691372
2-methyl-2-butene	513359
methylcyclohexane	108872
4-methylcyclohexene	591479
methylcyclopentane	96377
methyl ethyl ketone	78933
2-methylhexane	591764
3-methylhexane	589344
2-methyloctane	03221-61-2
4-methyloctane	02216-34-4
2-methylpentane	107835
3-methylpentane	96140
3-methyl-1-pentene	760203
nonane	111842
1-nonene	124118
octane	111659
pentane	109660
1-pentene	109671
cis-2-pentene	cis-2-pen

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Compound List

Compound Class: Volatile Organics - Non-halogenated

NAME	CAS Registry No.
trans-2-pentene	25377724
propane	74986
n-propylbenzene	103651
styrene	100425
1,2,3,5-tetramethylbenzene	527537
toluene	108883
trans-2-heptene	14686136
trans-3-hexene	13269528
trans-2-octene	13389429
trans-4-octene	14850238
1,2,3-trimethylbenzene	526738
1,3,5-trimethylbenzene	108-67-8
2,2,4-trimethylpentane	540841
undecane	1120214
o-xylene	95476
m-xylene	108383
p-xylene	106423

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Compound List

Compound Class: Volatle Organics - Halogenated

NAME	CAS Registry No.
dichlorobromomethane	75274
1-bromobutane	109659
bromoform	75252
bromomethane	74839
carbon tetrachloride	56235
chlorobenzene	108907
1-chlorobutane	109693
2-chlorobutane	78864
chlorodibromomethane	124481
chloroform	67663
1-chlorohexane	544105
chloromethane	74873
3-chloro-2-methylpropene	563473
1-chloropentane	543599
3-chloropropene	590216
2-chlorotoluene	95498
3-chlorotoluene	108418
4-chlorotoluene	106434
dibromomethane	74953
1,2-dichlorobenzene	95501
1,3-dichlorobenzene	541731
1,4-dichlorobenzene	106467
1,4-dichlorobutane	110565
1,1-dichloroethane	75343
1,2-dichloroethane	107062
1,2-trans-dichloroethylene	156605
1,1-dichloroethylene	75354
1,2-cis-dichloroethylene	156592
1,5-dichloropentane	628762
1,2-dichloropropane	78875
2,3-dichloropropene	78886
cis-1,3-dichloropropylene	542756
trans-1.3-dichloropropylene	10061026
ethylene dibromide	106934
dichloromethane	75092
1,1,2,2-tetrachloroethane	79345
tetrachloroethene	127184
1,1,1-trichloroethane	71556
1,1,2-trichloroethane	79005
trichloroethylene	79016
trichlorofluoromethane	75694
1,2,3-trichloropropane	96184
total THM's	TOT_THM
vinyl chloride	75014

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Compound List

Compound Class: Resin and Fatty Acids

NAME	CAS Registry No.
abietic acid	514103
arachidic acid	506309
benzoic acid	65850
capric acid	334-48-3
chlorodehydroabietic acid	57055386
dehydroabietic acid	1740198
dichlorodehydroabietic acid	C12DEHABA
9,10-dichlorostearic acid	C12_STEAR
isopimaric acid	5835267
lauric acid	143077
levopimaric acid	79549
linoleic acid	60333
linolenic acid	463401
myristic acid	544638
neoabietic acid	471772
oleic acid	112801
palmitic acid	57103
palustric acid	1945535
phthalic acid	88993
pimaric acid	127275
salicylic acid	69727
sandaracopimaric acid	471749
stearic acid	57114

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Compound List

Compound Class: Chlorinated Dibenzo-p-dioxins and Dibenzofurans

NAME	CAS Registry No.
chlorodibenzo-p-dioxin, octa	3268-37-9
total chlorodibenzo-p-dioxins, hexa	HEXA-CDD
total chlorodibenzo-p-dioxins, tetra	TETRA-CDD
total chlorodibenzo-p-dioxins, hepta	HEPTA-CDD
total chlorodibenzo-p-dioxins, penta	PENTA-CDD
2,3,7,8-Tetrachloro-p-dioxin	1746-01-6
chlorodibenzofuran, octa	39001-02-0
chlorodibenzofuran, 2,3,4,7,8-penta	57117314
chlorodibenzofuran, 1,2,3,7,8-penta	57117916
total chlorodibenzofurans, hepta	HEPTA-CDF
total chlorodibenzofurans, hexa	HEXA-CDF
total chlorodibenzofurans, penta	PENTA-CDF
total chlorodibenzofurans, tetra	TETRA-CDF

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Compound List

Compound Class: Carbamate Pesticides

NAME	CAS Registry No.
aminocarb	2032-59-9
barban	101279
benomyl (benilate)	17804352
butylate	2008415
Bux (Bufencarb)	8065-36-9
captan	133062
carbaryl	63252
carbofuran	1563662
diallate	2303164
eptam	759-94-4
isopropyl-n-phenylcarbamate (IPC)	122-42-9
isopropyl-n-(m-chlorophenyl)carbamate (CIPC)	101-21-3
propoxur	114261

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Compound List

Compound Class: Phenyl Urea Pesticides

NAME	CAS Registry No.
chlorbromuron	13360-45-7
chlortoluron	15545-48-9
difenoxuron	14214-32-5
diuron	330541
fluometuron	2164172
linuron	330552
patoran (metobromuron)	3060897
metoxuron	19937-59-8
monolinuron	1746-81-2
monuron	150685
neburon	555373
siduron	1982496

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Compound List

Compound Class: Triazine Herbicides

NAME	CAS Registry No.
alachlor	15972608
ametryne	834128
atraton	1610-17-9
atrazine	1912249
cyanazine (bladex)	21725462
metolachlor	51218452
metribuzin (sencor)	21087649
prometron	1610-18-0
prometryne	7287196
propazine	139402
simazine	122349

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Compound List

Compound Class: Organophosphorus Pesticides

NAME	CAS Registry No.
chlorpyriphos (dursban)	2921882
diazinon	333415
dichlorvos	62737
ethion	563122
guthion (azinphos-methyl)	86500
malathion	121755
methyl parathion	298000
methyl trithion (methyl cartophenothion)	953-17-3
mevinphos	7786347
ethyl parathion	56382
phorate	298022
reldan (methyl chlorpyriphos)	5598-13-0
ronnel (fenchlorphos)	299843

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Compound List

Compound Class: Base-Neutral Extractable Compounds

NAME	CAS Registry No.
acenaphthene	83329
acenaphthylene	208968
anthracene	120127
benz(a)anthracene	56553
benzo(b)anthracene	B[b]ANTHR
benzo(b)chrysene	214175
benzo(j)fluoranthene	205823
benzo(k)fluoranthene	207089
benzo(b)fluoranthene	205992
benzo(a)fluorene	238846
benzo(b)fluorene	30777196
benzo(g,h,i)perylene	191242
benzo(e)pyrene	192972
benzo(a)pyrene	50328
biphenyl	92524
bis(2-chloroethoxy)methane	111911
bis(2-chloroethyl)ether	111444
bis(2-chloroisopropyl)ether	108601
4-bromophenyl phenyl ether	101553
benzyl butyl phthalate	85687
camphene	5794-03-7
2-chloronaphthalene	91587
1-chloronaphthalene	90131
4-chlorophenylphenyl ether	7005723
chrysene	218019
coronene	191071
dibenz(ab)anthracene	DB[ab]AN
dibenz(ac)anthracene	DB[ac]AN
dibenz(a,h)anthracene	53703
dibenz(a,e)pyrene	192654
di-n-butylphthalate	84742
dimethylbenz(a)anthracene	57976
2,4-dinitrotoluene	121142
2,6-dinitrotoluene	606202
di-n-octylphthalate	117840
diphenylamine	122394
di-phenyl ether	101848
bis-(2-ethylhexyl)-phthalate	117817
fluoranthene	206440
fluorene	86737
indeno(1,2,3-cd)pyrene	193395
indole	120729
2-methylanthracene	613127
3-methylchloranthrene	56-49-5
1-methylnaphthalene	90120
2-methylnaphthalene	91576
1-methylphenanthrene	832699
9-methylphenanthrene	883-20-5
naphthalene	91203
5-nitro acenaphthene	602879
n-nitrosodiphenylamine	86306

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Compound List

Compound Class: Base-Neutral Extractable Compounds

NAME	CAS Registry No.
n-nitroso-di-n-propylamine	621647
perylene	198550
phenanthrene	85018
picene	213467
pyrene	129000
quinoline	91225
p-terphenyl	92-94-4
o-terphenyl	84-15-1
m-terphenyl	92-06-8
tetralin	119642
triphenylene	217594

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Compound List

Compound Class: Acid Extractables - Phenoxy Acid Herbicides

NAME	CAS Registry No.
dicamba	1918009
2,4-dichlorophenoxy-acetic acid (2,4-D)	94757
2,4-dichloro-4-phenoxybutyric acid (2,4-DB)	94826
dichloroprop (2,4-DP)	120365
picloram	1918-02-1
silvex	93721
2,4,5-trichlorophenoxy acetic acid (2,4,5-T)	93-76-5

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Compound List

Compound Class: Acid Extractables - Phenolics

NAME	CAS Registry No.
acetosyringone	2478388
acetovanillone	498022
4-chloro-3-methylphenol	59507
3-chlorophenol	108430
2-chlorophenol	95578
4-chlorophenol	106489
m-cresol	108394
o-cresol	95487
p-cresol	106445
2,4-dichlorophenol	120832
3,4-dichlorophenol	95772
2,5-dichlorophenol	583788
2,3-dichlorophenol	576249
3,5-dichlorophenol	591355
2,6-dichlorophenol	87650
2,4-dimethylphenol	105679
4,6-dinitro-o-cresol	534521
2,4-dinitrophenol	51285
guaiacol	90051
2-nitrophenol	88755
4-nitrophenol	100027
pentachlorophenol	87865
phenol	108952
syringaldehyde	134963
2,3,4,5-tetrachlorophenol	4901513
2,3,4,6-tetrachlorophenol	58902
2,3,5,6-tetrachlorophenol	935955
2,3,4-trichlorophenol	15950660
2,3,5-trichlorophenol	933788
2,3,6-trichlorophenol	933755
2,4,5-trichlorophenol	95954
2,4,6-trichlorophenol	88062
3,4,5-trichlorophenol	609198
homovanillic acid	306-08-1
vanillin	121335